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AUGUST, 1906

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Vol. TWELVE

The BUSY MAN'S MAGAZINE

THE REVIEW OF REVIEWS FOR
BUSY PEOPLE

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THE BUSY MAN'S MAGAZINE

(Formerly "Business")

CONTENTS FOR AUGUST, 1906

LIFE STORIES OF SUCCESSFUL PEOPLE

The Autobiography of W. T. Jerome	By JAMES B. MONROE	73
<i>An example of what might be accomplished by perseverance.</i>		
Manufacturer and Social Reformer	By RICHARD WESTROPE	78
<i>An interesting sketch of Scobey Rowland, the great Quaker and educator, whose work among the laboring class is worthy of highest commendation.</i>		
The Career of a Young Canadian Actress	By MATTHEW WHITE	117
<i>Miss Margaret Anglin gives an interesting review of her life on the stage.</i>		

RECENT DEVELOPMENTS IN SCIENCE AND INVENTION

The Canadian Invasion of Latin America	By DOUGLAS HALL	5
<i>The extraordinary enterprise exhibited by Canadians in the countries to our south.</i>		
A Wonderful New Musical Instrument	By RAY STANNARD BAKER	13
<i>The invention of the splanophone; its excellence as a perfect music producer.</i>		
An American View of British Railways	By RAY MOHRIS	18
<i>The merits and defects of each system from the traveler's point of view.</i>		
Glasgow, an Extraordinary City	By FREDERICK C. BOWE	22
<i>A model in municipal government and how this states was attained.</i>		
Canning the California Breezes	By WILLIAM BARRETT	37
<i>Positive indications that liquid air will be used for refrigeration purposes.</i>		
A Cull of Carpenter Ants	By HENRY C. McCOOK	41
<i>Showing the marvellous industry of the little ant.</i>		
A Chat About Inventions and Patents	By CHARLES A. SCOTT	45
<i>Tells how the inventor stops the best results from his inventions.</i>		
Harnessing the Power of the Sun	By HENRY PRITCHETT	51
<i>How the energy of the sun may be utilized.</i>		
Comforts of To-day	By EDWARD EVERETT HALE	69
<i>Contrasting the conditions of to-day with those of a century ago.</i>		
The Making of Mummies	By HENRY SEDON	81
<i>An interesting account of how the factory economy is replacing the primitive relic.</i>		
Submarine Signaling on the Ocean	By FREDERICK A. TALBOT	108
<i>Submar in communication lessens the dangers of ocean travel.</i>		

POLITICAL AND COMMERCIAL AFFAIRS

The Economic Revolution in Japan	By CHARLES EDWARD RUSSELL	65
<i>Showing Japan's marvellous advance in the commercial world and how it is being attained.</i>		
The First Russian Parliament	By DR. RAPPAPORT	87
<i>The impossibility of far reaching results from the present Duma.</i>		
Portugal's Gigantic Daughter	By ETHEL ARMES	90
<i>Brasil's rapid progress raises her of a position among the leading powers of the world.</i>		

HUMOROUS

Mr. Booley on the Food We Eat	By F. P. DUNKE	48
<i>The most palatable question invited in a humorous style.</i>		
Humor a Great Element of Success	By JUSTIN MCCARTHY	64
<i>The value of humor as an aid to success.</i>		

CURRENT THOUGHT AND EVENTS

Man's Opportunities Lie Everywhere	By NEWELL DWIGHT	33
<i>Showing that actual experience that man's success rests solely with himself.</i>		
The Force of Cricket	By E. H. D. SEWELL	54
<i>What England's national game has done to preserve good feeling among countries.</i>		
Varieties of the Dummy Director	By DAVID FERGUSON	96
<i>A glimpse as to how several business concerns are managed to-day.</i>		
A Romance of the Telephone	By H. C. NICHOLAS	113
<i>Showing the public appreciation of the telephone as a means of expediting business.</i>		
Some Aspects of Recent Earthquakes	By R. D. O	123
<i>A complete study of earthquakes, their causes and effects.</i>		

MISCELLANEOUS

A Venture in Sandwiches	By GANET SMITH	8
<i>A novel advertising scheme.</i>		
Character in Letter Writing	By BASIL TOSER	29
<i>A man's character is portrayed by his correspondence.</i>		
A Humble Start no Disgrace		35
<i>How some of the rich men of to-day commenced their business careers.</i>		
Some Secrets of a Dime Novel Factory	By the AUTHOR OF "SLICK PARKER"	60
<i>A history of how the dime novel is produced.</i>		
How London Hustles to Work	By J. A. MIDDLETON	98
<i>A pictorial of a daily scene in the world's largest city.</i>		
The Influence of the Mind on Health	By DR. GULICK	102
<i>How to try to attain the maximum efficiency of work and greatest enjoyment of life.</i>		
Matrimonial Swindlers	By G. SYDNEY PATERNOSTER	109
<i>Deceptions practiced by the matrimonial agent.</i>		
A Talk About the Dread Disease, Cancer	By RENE FACH	121
<i>Showing the different types of cancer and indicating the most effective treatment for each.</i>		
Men's Attire		150
<i>Summer dress and forecasts of Fall and Winter styles.</i>		
Other Contents of Current Magazines		129
The Busy Man's Bookshelf		141

OFFICES

CANADA	
MONTREAL (Telephone 3751)	332 McGill Street
TORONTO (Telephone 3701)	28 Front Street East
WINNIPEG (F. R. Morris)	Ross 211 Union Bank Building
St. James, N. B. (G. Horner White)	No. 7 Market Wharf
GREAT BRITAIN	
LONDON (Edw. J. Meredith McKinn)	68 Fleet Street, E. C.
MARCHMONT, Ess. (H. S. Ashbuser)	15 St. Ann Street

Inside With the Publishers

HAVE our readers noted the extraordinary increase in the number of magazines, reviews and weeklies that has taken place within the past year? There is constant activity in the publishing field and every month some new candidate for popular favor makes its appearance. Some people hold up their hands in helpless astonishment at the avalanche of printed matter. Others make futile attempts to keep up with the flood. Some cling to their old favorites and let the rest sweep by. Others try every new publication and discard the old.

To the perplexed reader of periodical literature, The Busy Man's Magazine stands as a haven of refuge. It embraces the old and the new alike, taking the best from each and guiding the reader to the sources of useful information. It acts like a filter, draining out the useless parts and giving its readers the clear, unalloyed essence of things.

If you have found The Busy Man's Magazine a relief, why not pass on the good tidings to others and let them share in the benefits. Remember that the more readers we can secure, the larger will we be able to make the magazine and the more reading matter will we be able to provide.

With a view to making it easier for our readers to learn the nature of each month's contents of The Busy Man's Magazine, we intend to classify the index on the first page of the magazine. So numerous are the contents of each number that such a policy will be found highly advantageous. At present we publish over thirty articles a month. The titles

of these are all lumped together, without any attempt at a grouping, which would show to what department each belongs. Our new plan will divide the articles into half a dozen classes, so that a reader can see at a glance just what we are publishing each month in a particular realm of thought.

* * *

It is seldom indeed that we ever hear a word of adverse criticism of The Busy Man's Magazine. We were surprised, however, to learn the other day from a correspondent that the magazine was of no use to him because he already subscribed to and read all the magazines from which we took extracts. So astonished were we at this statement that it quite took away our breath.

Our correspondent must be an extraordinary man. We venture to say that in order to read thoroughly each month all the magazines and periodicals, through which our editorial staff wade, he would have very little time indeed for sleep and no time at all for business. Moreover he must be a man possessed of a fortune in order to pay the subscriptions of all these publications.

The list of magazines, reviews, weeklies, and other periodicals which come into our office of publication, is far larger than would appear from our department devoted to listing the contents of magazines. No reference is made there to newspapers, nor to a great many weekly publications, while every month there are special reasons for the omission of a large number of magazines. This being the case, our field is a great deal broader than it might at first glance appear.

TO-DAY is your day and mine, the only day we have, the day in which we play our part. What our part may signify in the great whole we may not understand, but we are here to play it, and now is the time. This we know, it is a part of action, not whining. It is a part of love, not cynicism. It is for us to express love in terms of human helpfulness. This we know, for we have learned from sad experience that any other course of life leads to decay and waste.

David Starr Jordan.

THE BUSY MAN'S MAGAZINE

Vol. XII.

AUGUST, 1906.

No. 4

The Canadian Invasion of Latin America

BY DOUGLAS HALL IN WORLD TO-DAY.

At Sao Paulo, at Rio de Janeiro, in Trinidad, in Cuba and in Mexico Canadian capitalists have been active of late years. Their projects have assumed such proportions as to suggest the success and even the pathway of American. Some idea of the extent of the Canadian projects is given in the following pages.

INVASIONS, of the commercial sort, have been much in the public eye of late. A few years ago it was the American invasion of Europe; to-day it is the American invasion of Canada. The United States has so long been in the receptive attitude, both for men and money, that it has been difficult to realize that the tide has turned, and that every year fifty thousand American farmers and approximately \$30,000,000 of American capital are trekking into Canada. Stranger still is the parallel movement, at least so far as capital is concerned, from Canada outward. As though there were no resources in the Dominion left to develop, Canadian capitalists have for the past five years been seeking investments in Latin America and have forestalled their usually more alert American cousins by occupying the strategic positions there.

When Lincoln Hutchinson, special agent of the Department of Commerce and Labor, visited South-

ern Brazil a few months ago, he reported that only one American enterprise of any moment existed in all that vast region, and that was in the hands of a Canadian company. The progressive south has been left almost entirely to European capital to develop. The plateau state of Sao Paulo, the most up-to-date perhaps of the Brazilian states, with all its rich opportunities, its healthful climate, its fertile soil, its enormous water powers, and its three-quarter million of European immigrants, had not been touched by North American capital till some six years ago, when a Canadian concern awoke to the situation. An exclusive street-car franchise for forty years was secured from the city of Sao Paulo, and, later, a perpetual franchise for electric light and power distribution. Ten million dollars were spent in developing hydro-electric power from falls about twenty-five miles from the city and in building transmission lines to the city. The enterprise has been emin-

ently successful so far as producing dividends go, and it has further, in Special Agent Hutchinson's words, "given to Sao Paulo a street car and lighting service as good as any in the world, and cheap power for many of the local industries."

Inspired by this success, the same set of Canadian capitalists has recently invaded Rio de Janeiro with an exactly similar proposition. Twenty-five million dollars are being expended in acquiring and equipping with electricity the existing street-car lines, building others, buying out the gas company, and bringing electric power to the capital from a branch of the Parahyba River, over forty miles distant. The great drawback to South American manufacturing industry has been the lack of cheap fuel, but apparently Brazil, like Northern Italy, is destined to find an efficient substitute in cheap water power. Nor will this be the only advantage the capital will reap from this Canadian enterprise: the extension of the street-car system will relieve the unhealthy congestion on the flat lands by spreading the population on the surrounding hillsides, and thus do much to make the city as healthful as it is beautiful.

Farther north, the island of Trinidad has been the objective of a concerted Canadian movement, shared in both by the government and by private capitalists. A steamship service between Canada and Port of Spain has been opened up, and a Canadian bank established in that city; the rich mineral oil resources are being exploited by a Canadian syndicate, and the electric light and street car system of the capital, Port of Spain, have been

acquired by a Canadian company. Perhaps in this connection mention might be made of the share taken in the development of Cuba by the Cuba company of which Sir William Van Horne is the head and moving spirit, for American-born Sir William is as thoroughly Canadian as Canadian-born James J. Hill is thoroughly American.

In Mexico the situation is somewhat different. American capital has been poured into our sister republic for many years, until, according to government estimates, it now totals half a billion dollars. Compared with this tremendous inflow, Canadian investments are comparatively slight in amount, but strategically of much importance. Montreal and Toronto, capitalists have recently secured control of the three rival electric light and power companies which between them had a monopoly of the light and power business of the capital; one was built by a German company, another by a French syndicate and the third was owned in England. The new owners have secured from the government a franchise for the development of the water power of the Necaxa and Teneango rivers, and its transmission to the City of Mexico or anywhere else in the country desired. Over seventy thousand horsepower will be developed, half of it available this Spring. The transmission lines to Mexico, ninety miles away from the water power, are now completed, and the company will shortly be able to avail itself of this electric power instead of the steam plants previously employed, and to sell the surplus power for industrial purposes. The same set of capitalists is now arranging to take over

the street car system of the Mexican capital.

The Canadian Government has not been behindhand in aiding this invasion. Every effort is being made to cultivate closer trade relations with Latin America. The advances have met with a welcome not devoid, perhaps, of political significance. Uneasy at the overshadowing power of the United States, and more suspicious of that vague and flexible policy called the Monroe Doctrine than grateful for its condescending protection, our neighbors to the south feel safer in cultivating commercial relations with Canada than with the United States.

Mexico, for example, recently sent representatives to Ottawa to advocate the establishment of better

steamship connection. As a result of the negotiations the two Governments have agreed to contribute \$50,000 each as a subsidy for two steamship lines, to ply between Canadian and Mexican ports, one on the Atlantic and one on the Pacific. It is confidently expected that the establishment of these lines will result in transferring to Canada much of the trade hitherto in American hands. Whether all expectations in this and other quarters will be realized or not, clearly the volume of Canadian-Latin American interrelations has reached such proportions as to warrant the careful attention of the American business world as well as of the government at Washington.

Gladstone on Books

BOOKS are a living protest in an age by necessity too much tempted to practical materialism. Books are a living protest on behalf of mental force and mental life. I am far from saying that literary culture ought to be made an idol. I am far from saying that any intellectual processes whatever will satisfy all the needs and all the wants of the human spirit, but I say that they are full of noble guidance, and that they are necessary conditions of every wholesome struggle to resist the invasions of the merely worldly mind and habit of life, and to enable us to hold our ground against the necessary and constantly growing hurry and excitement around us, which carry us into a vortex from which we cannot escape. We cannot escape from it, but we may to a great extent fortify ourselves by a resort to the highest influence against becoming the slaves of the exterior circumstances in which we live.

A Venture in Sandwiches

BY GASKETT SMITH

(The story with an idea, together with money and the way in which they combined forces to make a good business plan.)

CHRISTOPHER SIMPSON was reading the help wanted column, which he had decided was his last hope. Nevertheless, he managed to extract amusement therefrom.

The diversion of the moment had been an advertisement running:

Wanted, men to carry sandwich boards for advertisers. Good wages.

Simpson, better known to recent colleagues as Cricky Kump, aside from his brilliant social career, had achieved distinction at college for his ability as an amateur actor and for the clever advertising schemes he contrived to boom the various college organizations. As to actual college work: well, he'd never let study interfere with his regular occupations.

His two "accomplishments" had awakened exceedingly vitriolic comment from Simpson, Sr., when that gentleman tried to find just where his son and only heir would fit in the machinery of the big iron works of which he was the head.

Soon after Cricky had thoroughly demonstrated that he was a cog unique and unfittable and had won a chilly stare of contempt in return for a hint that he'd like to run the advertising department, the Great Northern Iron Works went into the hands of a receiver. Hence Cricky in the last ditch.

Reporting he'd tried on his first return to New York. A classmate, Jack Benson, was making good at it and got Cricky a place on his paper. Cricky kept it till his first pay-day.

then resigned. As he put it, to get out of range of the rapid-fire gun the city editor was training on him.

Now everything available was pawned and the proceeds reduced to their lowest terms. As for asking any of his numerous New York friends for aid in getting employment, he was still too proud for that.

"I'd sort of like that sandwich game," he soliloquized, "quiet, clean and eminently respectable. Then I'd have plenty of time to stop and chat with friends I might meet. Imagine tipping my hat to Mrs. Van Zant from between two boards inscribed with 'Take Seiditzheimer's Sauerkraut before retiring. It aids digestion.' Mink Upjohn would be tickled to death to see me, too, now that he's walking Broadway a good deal himself."

Upjohn was the one man of Cricky's fraternity delegation who never quite assimilated.

"Good fellow by birth, but with superimposed superfluity of the exorbitant and sublimating financial," Cricky had pronounced.

Upjohn had been cordial enough yesterday when Cricky met him. The former explained that he was bent on striking out in business for himself with some free capital he had in his own name. He was at present looking for some one who wanted to furnish the experience for a half share in the business.

He had cooled at once when Cricky told him that his own father had failed and that he was looking for work without even the "faint-

est tincture of a dilute solution of free capital, present or remotely threatening."

"Afraid I'd touch him for a five-spot out of that free capital," Cricky mused with a grin. "Mink, you were never properly hined in college, but you'll get it before your capital is all paid over for experience."

Cricky pondered again on the highly entertaining idea of the sandwich man. Suddenly he jumped up, his face alight with an idea. He jammed his soft hat on the back of his head, counted the change left in his pocket and went out.

The next day a ruddy-checked, red-headed young man, portly and rather stooping, giving his name as Paines Riley, called at Upjohn's home. He sent in a letter proving to be an introduction written by Christopher Simpson introducing Paines Riley, son of a former butler, who had developed great talent for advertising schemes, was perfectly straight and had a business proposition that might interest Upjohn.

The heir of the house came down in a few minutes with a manner uncertainly divided between supercilious condescension and avaricious eagerness. He had not found a partner yet and was beginning to get anxious about his career.

Cricky's letter of introduction had caused him to set aside some of his racial prejudices. Besides, Mink was, as a matter of fact, an easy mark.

At the end of two hours Paines Riley departed with a contract in his pocket, signed by himself and Percival Upjohn. Another of Cricky's schemes had been born.

The next week the novelty-seeking

peepshow picked up its ears and took notice. Paines Riley, unblinking, smiling and bowing on all sides, sauntered down Broadway in the shopping district between a pair of huge sandwich boards that barely missed the sidewalk.

He wore a patchwork uniform blazing the most jarring combination of inharmonious colors that could be tortured out of the spectrum. On the front board in big letters of alternating red and green were the words, "If you want to know anything"—smaller black letters at the top of the other board continued the sentence—"ask the sandwich man. He knows."

Not a soul that passed failed to see the walking crazy-quilt. All read the front legend and to a man turned to note the rest of the sentence.

And it seemed to the tired Riley at night that every mother's son and daughter had wanted information. They asked him the way to the Battery, the way to Harlem, the way to every business place, street and locality in the city. Smart persons asked him sandy fool questions. All wanted to know why he was doing it and for whom he was doing it.

They all got their answers. Mr. Riley seemed to know nearly everything, and where knowledge failed, invention filled the gap.

His replies were full of quaint, apparently original rhymes, proverbs, and wise advice. No one, though, got any light on the why and who of the sandwich man.

Once he stood in front of a big department store all day. "Ah, the mystery is solved," said the public. He was advertising McDougal's.

The next day the sandwich man maintained a station in front of Me-

Dougal's rival too blows down. The public was again in the dark. Incidentally each store on its favored day did a third more business than usual.

Within the next two days representatives of carb empiricism approached Riley and offered him good wages to stand by his entrance and drop an occasional good word for the business inside.

The sandwich man seemed not to understand them. Meanwhile other stores were similarly favored.

Then the firm made its next move.

Full-length poster pictures of the sandwich man began to appear in conspicuous places about the city. The board in each picture bore in small letters at the top, "Ask the sandwich man." Small posters of the same kind appeared in the street-cars, Subway, and L. trains, and in the stations. There was a copyright stamp on each. These valuable advertising spaces were paid for out of Upjohn's \$10,000.

The public was becoming constantly more mystified.

In a little office in Twenty-third street sat Upjohn addressing circulars to big advertisers about the city calling attention to the blank spaces on their posters. Phineas Riley would dodge in occasionally, enquired in his sandwich boards, to give sage hints.

The sandwich man was a favorite topic at the Scribblers' Club, where Christopher Simpson, a leading member, spent his evenings, the only advantage derived from his brief journalistic career.

Jack Benson first discovered the sandwich man. He gave a detailed description of the phenomenon.

"The duffer's positively uncanny," he said. "I never saw the

chap before, I'm sure, but he seemed to know all about me. I got curious when I spotted him first and hazed up to jolly him a little. Hanged if he didn't give me as good as I sent and raise me one each time. He finally told me he had never been fazed by a newspaper man yet. Now I hadn't told him I was a newspaper man.

"Well, you're on, old man," said L. "Suppose you've seen me somewhere before. I'm looking for a story. Can't you put me on to this game?" And I forked over a good cigar.

"You're too ambitious, Mr. Benson," he said. Now how the deuce did he know my name? 'You me to be married in June, I know,' he went on, while I nearly threw a fit. 'But the young lady had rather have you to herself a little more than to have a few more dollars to spend.' Now—hang it all!—that's just what Miss Wallace, my fiancée, said the other night and I hadn't mentioned it to any one except the three of you fellows I ate dinner with the day before yesterday. That was more or less confidential, too, and at least I know you chaps aren't blabbing to sandwich carriers."

The members of the club decided one and all to meet the sandwich man. Crispy Simpson was apparently as curious as any.

Benson gave his paper a breezy news story of his experience. Others followed. Then there came editorial paragraphs of comment. A newspaper poet wrote a rhyme. "Ask the Sandwich Man."

The phrase had become a general proverb.

The climax came when a composer adapted the rhyme to a catchy tune and put it in the mouth of the lead-

ing woman of a popular light opera having a run in town at the time.

The city went wild. Newsboys and bootblacks would line up behind Riley and march solemnly, singing "Ask the Sandwich Man." He heard it whistled and played wherever he went.

In the meantime, however, it looked as though Crispy Simpson's prophecy as to the ultimate fate of Minky's capital was to be fulfilled. Riley had his notions of the advertising value of the sandwich man's posters and had turned away many offers that had made Upjohn gasp with amazement at first, then wait with inward misgivings, and finally protest that they would reach too far and lose everything.

Upjohn had only ten thousand dollars of free capital, and nearly every cent was sunk in the space concessions.

At the end of the first week offers began to come in for blank space on the sandwich boards. Sums ranging from ten thousand dollars to twenty-five thousand dollars were promptly refused, but with the refusals went suggestions from Riley as to the firm's ability to place advertisements with various papers.

Other ingenious schemes were unfolded. They began soon to get some returns in this way.

"If we can win out and clear twenty-five thousand dollars apiece on the sandwich deal, we'll have a nice little business started," said Riley. "If we don't it's all off, and we'll have to throw up these contracts and go to ditch-digging."

But above the twenty-five-thousand-dollar mark, the offers showed down, and after the inexorable Riley had refused two for thirty thousand dollars, despite protests

from the alarmed Upjohn, the offers stopped for two days.

The two weeks for which the concessions were held had nearly expired. The capital had dwindled to a few postage stamps and money enough for meals to the end of the week.

On the last day of the term of lease Upjohn was in a panic, and a reassertion of his autocratic disposition nearly caused a break between the partners.

He began by making a pointed demand of Riley to explain just what his game was.

"You know the game and have been agreeing to it," replied the other rather sharply. "I got another offer while you were out at luncheon," he added after a moment.

"Who? How much?" Upjohn's flagging spirits rose with a bound.

"The new concern that's just finishing that big building in Twenty-third Street. They've been keeping their plans dark till now. They think we've got the scheme to start their boom, and will pay forty thousand dollars for it."

Upjohn jumped up wildly. "Saved!"

The other looked at him quizzically, then at his watch.

"Hold on," he said; "not yet. I told them I'd give them till five o'clock, when our concessions expire, to make it fifty thousand dollars. Otherwise I'd close with another party."

"Another party?" gasped Upjohn. Riley's nerve was superb.

"You remember old Skindint McDougal told us we'd be glad to come back to him on his five-thousand-dollar offer before our two weeks were

up. That's the only other offer still open."

Upjohn's wrath swept its weakened barriers away. Riley watched him, smiling sweetly.

Finally Upjohn became coherent enough to say:

"Let me at that 'phone. I'll accept the offer myself."

"You forget the clause in our contract saying both must agree on an offer," said the imperturbable partner, bank against the receiver.

It was four thirty o'clock.

The partners stared fixedly at each other, one glaring, one smiling.

At four thirty-five Upjohn shifted to the other foot.

Five minutes later he began to swear, and, looking out of the window, cursed fluently for five minutes more.

Then he began to plead. Four fifty found Riley unmoved.

Then followed ten minutes of despair. The face of Riley began to show traces of it, too.

At five o'clock the game would be up.

And five o'clock found them still waiting. Riley's confidence was at last shaken.

"Well, it seems to be off," was his only remark as the minute hand touched the fatal mark.

What Upjohn said will have to be omitted.

Then, as the hand of the watch still poised for an instant at the hour, the telephone rang.

Riley's hand trembled for the first time as he unhooked the receiver and lifted it to his ear.

"Yes, this is Mr. Riley."

"Yes. I thought you would."

"For fifty thousand dollars. Contract. Send a man around with the contract immediately."

The two partners were in each other's arms.

"Riley," said Upjohn after a moment, "I've been an incompetent, supercilious ass. You're a gentleman, and I'm proud to have you as a partner. You come up to dinner to-night and meet my mother and sister by way of celebration."

The regeneration of Minsky was complete.

"Thank you," Riley responded, "I will. Guess I'll wash up now."

Upjohn tilted back in his chair and watched his partner hent, spluttering and scrabbling over the wash-bowl in the corner of the little office.

As he looked, surprise suddenly overspread his countenance. Riley's fiery red hair, under his vigorous ablutions, was becoming dingy, then it turned mud color, then dark brown. Finally a dripping pond of jet black disappeared in the towel.

Upjohn was on his feet staring.

"What the dence you been doing?" he demanded.

Mr. Riley continued leisurely to dry his face and hair.

After a minute he withdrew the towel and there before the thunder-struck Upjohn stood Christopher Simpson, amateur actor and advertising expert.

After twinkling a moment in delicious enjoyment of the situation, he tumbled into a chair and roared till he nearly fell out of it.

"So it was you all the time," Upjohn managed to gasp, after a few minutes. "I see the whole thing now. I was easy."

"Mr. Phineas Riley," returned Creaky, "just passed away down this drain, and as a dying request he asked me to substitute for him at that dinner to-night."

A Wonderful New Musical Instrument

BY RAY STANFORD BAKER IN MCLURE'S MAGAZINE

A scientific musician, Dr. Theodore Cahill, has invented a musical instrument called the dynamophone, which is believed to be the most perfect one yet made for making music. By the mere of electricity scientifically perfect tones can be turned out and transmitted by wire to distant points.

DR. CAHILL'S new invention suggests, if it does not promise, a complete change in the system by which a comparatively few rich people enjoy the best music to the exclusion of all others. Instead of bringing the people to the music by the new method sending the music to the people. The instrument itself produces no music, it merely gives out electrical waves of various sorts which are carried over wires like a telegraph message. Highly skilled musicians located in a quiet room distant from the whirl of the machinery, regulate the production of these waves by playing upon keyboards similar to those of the pipe-organ. Connecting with the central plant, cables are laid in the streets, from which wires may be run into your house or mine, or into restaurants, theatres, churches, schools, or wherever music is desired. Upon our table, or attached to the wall, we have an ordinary telephone receiver with a funnel attached. By opening a switch we may "turn on" the music. The electric waves sent out by the great central machine are transformed, by the familiar device of the telephone, into sound waves, and reach our ears as symphonies, ballades or other music, at the will of the players. Louder tones and greater volume of music may be secured for theatres and churches, by the simple regulation of a switch. Of course the same selections, performed by the musician, go over the wires at the

same time, so that you and I may sit in our homes on Easter morning and hear the same music that is being produced in the churches, or in the evening, dining at the restaurant, we may enjoy the identical selections given in the opera house or the theatre. It is the dream of the inventor that, in the future, we may be awakened by appropriate music in the morning and go to bed at night with ballades—sleep-music being a department of musical composition which he thinks has been sadly neglected. The machine as now constructed is, indeed, peculiarly adapted to the street, soft strains of sleep-music. It would be difficult to produce more exquisite effects than Dr. Cahill gets in such selections, as "Tranquillized."

One's first feeling, upon hearing of the new machine, is one of utter incredulity. When the telephone was invented the idea of talking over wires was just as inconceivable; and more recently the announcement that messages might be conveyed from Europe to America wholly without the use of wires, was looked upon with much the same skepticism. But Dr. Cahill's machine is actually in existence, players have been trained to perform upon it, and the music has really been conveyed over wires and produced in distant halls and houses, as it will soon be delivered through the streets of New York. When one is convinced that so much of the story is true his next impression—for we are of weak

faith—is that this is only another device, like the phonograph, or the much advertised piano-player, for producing mechanical music. In other words, we imagine a sort of overgrown, lumpy-gurdy. The news of all great inventions seems at first too good to be true. It is amazing, the vastness with which the inquirer, eager to believe in the instrument, is sure to ask: "But is the music not mechanical? Cannot you hear the machinery? Is it possible that such a machine can be made to convey the emotion of the player?"

These were the questions uppermost in my own mind when I went to Holyoke, Massachusetts, where Dr. Cahill has his laboratory, and where he has just completed his second machine, the one now being installed in New York City. A wire runs from the laboratory to the Hamilton Hotel, about a mile away, and the telephone receiver, fitted with a thin paper horn, was placed on a chair in the ball-room at the top of the building. A switch near at hand turned on the music and regulated the tones, either soft or loud, the musicians, of course, being located at the keyboard in their own small room at the laboratory a mile away. I am not a musical critic, but of a few things any one may at once make sure. When the music began, it seemed to fill the entire room with singularly clear, sweet, perfect tones. Although expecting somehow to hear the whir of machinery, or the rattling sounds common to the phonograph, I was at first so much interested in the music itself that I did not once recall its source. Afterwards, I listened especially for some evidence of the noisy dynamics which I had just seen, but without dis-

tinguishing a single jarring sound; nor was there any hollowness or strangeness traceable to the telephone or its horn attachment. It was pure music, conveying musical emotion without interference or diversion. As one listens, the marvel of it grows upon him—the marvel and the possibilities which it suggests. The music apparently comes out of nothingness, no players to be seen, no instrument, nothing but two wires running out of the wall; and in hundreds of different places widely separated—the present machine can supply over one thousand subscribers—the same music may be heard at the same moment.

The first impression the music makes upon the listener is its singular difference from any music ever heard before; in the fullness, roundness, completeness, of its tones. And tiny it is different and more perfect; but strangely enough, while it possesses ranges of tones all its own, it can be made to imitate closely other musical instruments; the flute, clarinet, French horn and cello best of all, the piano and violin not as yet so perfectly. Ask the players for life music and they play Dixie for you with the squealing of the pipes deceptively perfect. Indeed, the performer upon this marvelous machine, as I shall explain later, can "build up" any sort of tone he wishes; he can produce the perfect note of the flute or the imperfect note of the piano—though the present machine is not adapted to the production of all sorts of music, as future and more extensive machines may be.

After several selections had been given I was conscious of a subtle

change in the music. Dr. Cahill said:

"Mr. Harris has taken Mr. Pierce's place."

It is quite as possible, indeed, to distinguish the individuality of the players upon this instrument as it is upon the piano or violin. The machine responds perfectly to the skill and emotion of the player; he gets out of it what he puts into it: so that the music is as much a human production as though the player performed upon a piano. In an hour's time we had many selections, varying all the way from Bach and Schubert to the "Arkansas Traveler" and a popular Stein song. One duet was played by Mr. Pierce and Mr. Schultz. The present machine is best adapted to the higher class of music. It does not produce with any great success the rattle-bang of rap-time, which is perhaps an advantage.

By the time I had heard the music and had speculated upon what the influence of such an instrument might be upon the development of the aesthetic side of our common life, I wanted to understand the invention itself and to know something of the man who created it.

A first glance at the machinery in the Holyoke laboratory is rather discouraging to the ordinary visitor who is untrained in the science of electricity and sound. It seems, like the pictures that go with this article, almost too difficult to understand. But, like all great inventions, its fundamental principles are really simple.

A musical note, in its simplest sense, is a pleasant sound, produced by vibrations in the air. Strike a key of a piano; the string vibrates

and sets the air to pulsating, sound waves are conveyed to our ears and we hear a musical note. Some strings produce rapid vibrations and give us high notes. Others, slower vibrations with low notes. By striking various keys in succession these vibrations may be blended or combined to produce music.

Every one knows how different is the music produced, for example, by the piano from that of the concert or violin. The tones are wholly different. Why?

Helmholtz in his great work on "Sensations of Time" analyzed musical tones as a chemist analyzes water. A tone which seems to us perfectly simple may be extremely complex. Helmholtz showed that, when a note struck, we have first a "ground tone," consisting of a certain number of vibrations a second. But this is not all; accompanying the "ground tone" and co-existing with it are other vibrations called "harmonics," which are two, three, four, five or more times as rapid.

In some instruments the ground tone is strong and clear, and the harmonics much less distinct—as in the violin and the flute. In brass instruments the ground tone is weaker and the harmonics stronger. In other words, the quality of a musical instrument depends upon the combination of the original ground tone and its many harmonics.

Helmholtz, by the use of many tuning forks, one giving the pure primary tone, the others yielding the pure harmonics, was actually able to "build up" or imitate the tones of various instruments.

Here, then, in its prompt form, was one of the basic ideas out of

which the music of the future will grow—is now growing. If Helmholtz could have gone on and built a machine for operating and controlling his tuning forks he could have produced any sort of music he desired, and with scientific perfection. But such a machine would have presented mechanical difficulties impossible of solution. Helmholtz, moreover, had no idea of producing music. His work was to investigate the physiological basis of our musical sensations.

Dr. Cahill, on the contrary, using the scientific knowledge which Helmholtz and a host of others had developed, sought to create a new system of musical production that would be more plastic and expressive than anything known before. Later he set himself the further task of finding some way of distributing widely the music so produced.

It is impossible here to describe the tortuous and dimly lit pathway of his progress, or to tell of the obstacles which he was compelled to surmount. It will be sufficient to explain, simply—for it is really simple—how he finally solved the problem.

Electricity, like sound, travels in waves or vibrations, electricity in the ether, and sound in the air. Why should there not be a way, argued Dr. Cahill, for producing the various vibrations corresponding to the pitch of a musical note by electricity and then changing them into sound-vibrations? This was the problem he studied; and he finally hit upon the use of electric dynamos. Each dynamo was so built that it gave out alternating currents which vibrated (or alternated, as the electrician would say) at a certain rate.

Each dynamo produced vibrations representing a single pure musical tone, or a single one of Helmholtz's tuning forks. Other dynamos or alternators were used to represent other pure tones, until in the present machine Dr. Cahill has not fewer than 145 such alternators. They are placed upon great steel shafts, and operated by power machinery. Each alternator is connected by wires with the playing keyboard in another room. When one key is pressed one alternator gives off its vibrations; when two are pressed, two alternators come into play. Let us suppose, now, that the player wishes to produce the peculiar sweet note of an A string (open) upon the violin. The ground tone of the A string has 435 vibrations a second, the key controlling one alternator will produce this ground tone, but it will sound more like a flute note than a violin note. Harmonies must be added—exactly as Helmholtz built up a tone with his tuning forks. Stops are drawn producing the first harmonic, 870 vibrations, the second harmonic, 1,305 vibrations and so on, until the approximate note of the violin is reached. In other words, the player, by using the proper keys and stops can construct the tones of any instrument he wishes. He can have the clear note of the flute, the heavy buzz of the 'cello or the squeal of the sife. The qualities of all instruments—the vivacity of the piano, the emotion of the violin, the privity of the clarinet, are thus within instant reach of the player upon a machine of this type. The present instrument with 145 alternators, while producing the most extraordinary results, will not reach all of the combinations necessary, let us say, to

produce the marvellously complex music of an orchestra, but the inventor is already planning a much larger machine, with hundreds of alternators, upon which eight or ten musicians may perform together, making possible heights of musical harmony never before imagined.

The fundamental feature of the machine, then, lies in these alternators, but many other devices, wonderful inventions in themselves, contribute to the production of musical sound. For example, the currents from various alternators must be combined to make a given tone; consequently the inventor has produced what he calls "tone-mixers" where the various sorts of vibrations, carried on wires, are combined. Leaving the mixer, mysterious as it is to the non-technical mind, the current is "refined" by passing it through other devices from which it emerges ready for distribution by wire to the subscriber in his home or at his restaurant. It is perfectly marvellous, the way in which these currents are regulated and controlled—molded as it were, by the delicate touch of the artist's hand.

One final device is necessary. So far we have only an electrical current, properly mixed and refined, to produce a given musical tone, but there is no sound whatever. The machine itself, as I have said, is silent. The inventor here has recourse to the simple device of the telephone receiver, the purpose of which is to translate an electric current, which comes to it over the wires, into sound waves. The familiar little black diaphragm of the telephone is made to vibrate by the current and that vibration is

communicated to the air, producing sound waves which we hear, exactly as we hear the sound waves excited by a piano string. Thus the new music comes to us. It can be transmitted over ordinary telephone wires and received in our ordinary telephones, but inasmuch as the current used for the music is much stronger than that employed for carrying the human voice, it is the plan of the inventor to have separate wires laid in the streets, and a separate telephone apparatus in the theatre or in the home of the subscriber. In New York the plan is ultimately to have four different sets of wires, one carrying operatic music, and one popular airs, so that subscribers may take their choice.

Having produced his new instrument it was necessary to find an operator. Curiously enough, although Dr. Cahill is a profound student of music and a lover of musical art he plays no instrument. About three years ago Edwin H. Pierce, a professional pianist and organist of many years experience, undertook the task of mastering the new instrument. The keyboard which he uses fills all one side of the music room. It is surrounded by a jungle of wires leading from the keyboard to the 2,000 or more switches which control the instrument. The musician sits on a high bench, like that of a pipe-organ, with double-headed keyboard. Sixteen stops are used to regulate the harmonies, and there are other devices, pedals and "expression levers," for otherwise controlling the tones. One telephone with a funnel is arranged behind the player, so that by listening to his own music he may get exactly the proper effect.

An American View of British Railways

BY RAY MORRIS IN ATLANTIC MONTHLY.

The writer, after comparing British with American railroads, comes to the conclusion that each country has provided itself with the system that, broadly speaking, answers its own needs best. The question, in great degree, takes up the characteristics of the British system from the standpoint of the casual traveler.

IF I were asked to name the characteristics which, from the standpoint of the casual traveler, make British railways most unlike American railways, I should reply unhesitatingly, hedges, and the Board of Trade. Each of these terms is somewhat symbolic, as used. The hedges, perfectly trimmed and laid out like the boundaries of a model garden, suggest the neatness and careful exactitude that pervade the service. They may fairly be made to stand for the politeness of the employees, the "railway servants," as well; for one does not expect to find rude servants in an old-fashioned garden. The traveler does not see the Board of Trade, but he is surrounded on all sides by its handiwork, and watched over by its inspectors. Specifically, the Board of Trade as a British railway characteristic stands for the broad main-line, station platforms, the overhead bridges from the up-line to the down-line, the absence of grade crossings, the efficient system of block signaling, and the careful inspection and report that follow even the most insignificant accident. More broadly, it denotes the great British Public Opinion, that may be inefficient, but is always honest and courageous, and carries an influence—whether it expresses itself in the shareholders' meeting or in the columns of the Times—which has no parallel in this country. Nor does public opinion, or public serious-mindedness, stop

with the proprietors and the critics; the humblest railway guard feels his responsibilities, and respects the traditions of law and order to an extent that is simply astonishing. He may be simple; he usually is; but his fidelity to the book of rules and to his own small but essential share in railway working seems to belong to a different race of individuals from the American trainman, with alertness and carelessness well mingled in his make-up.

The Board of Trade is a branch of the government, and its railway department is concerned almost solely with public safety. It views public safety broadly; it will not permit any new line to be opened for traffic until its inspectors have passed on it; and the inspectors require compliance with almost countless arbitrary requirements that entail a tremendous expense on the railway company, and have, in considerable part, no real bearing on safety. Many of these requirements are traditional rather than expedient; if railways were to be built de novo in the year 1906 it is certain that the Board of Trade would be immensely shocked, if not insulted, at the suggestion that a 100-ton locomotive should rely on wheel flanges less than one and a half inches deep to keep it on the rails, at a speed of seventy miles an hour. But the traveler who is not a shareholder has no occasion to worry over excessive safety, and he can feel assured that every Brit-

ish railway on which he is permitted to travel has passed a rigid examination at the hands of one of the most critical examining bodies in the world.

The Railway Department of the Board of Trade has four principal inspectors, who are retired army officers—at present three lieutenant-colonels and a major. These gentlemen naturally had no railway experience prior to their appointment; in fact, the very circumstance of their army career indicates the impersonal, non-partisan service which is expected of them. Without technical skill, except that which they have acquired in the prosecution of their duties, they stand for dignity and absolute integrity, as representatives of the government. One inspector personally investigates every accident, every new line which it is proposed to open for traffic, every installation of a new type of signal, and the like, and receives testimony much like a circuit judge, except that the proceedings are informal. In due course of time he presents his report, quoting the important testimony, and adding conclusions and recommendations of his own which have practically the force of statute, because of the power possessed by the Board to require compliance on the part of the companies. The reasons gravely alleged by the Board as the cause of a wreck often fail to convince; the remedies suggested may do nothing more than reiterate the need of care in train-working; but the blame is thrust squarely on all the operating methods and physical conditions contributory to the accident, and any real evils that may be discovered are dealt with in no uncertain manner.

For example, at the famous Hall Road accident, on the electrified portion of the Lancashire and Yorkshire, the whole system of facing-point switches, throughout the country was under trial, although the primary cause of the accident was an order to proceed, wrongly given, by a signaller. The country was shocked by the accident; but the Board of Trade went about its investigation without haste or hysteria, and laid the entire blame where it belonged—on the mental confusion of the signaller. The American press as a whole can be relied on always to assume, tacitly or avowedly, that a serious railroad accident is due to "corporate greed," implying that if the shareholders cared to spend what they should, they could bring about a condition of perfection that would make accidents unheard of. The British press does not share this attitude of mind, because it places perfect confidence in its Board of Trade. When the inspectors of the Hall Road disaster fully exonerated the facing-point switch from the charge that it was accessory to accidents in general, the press had no more to say on this point. It is easy to imagine the heroic stand which our sensational papers would have taken in such a dismission. They would have formed their own conclusion months before the Board of Trade hearings were finished, exonerating the poor signaller—and incidentally publishing his portrait—placing all the blame on the directors, and appealing to high Heaven and President Roosevelt for a law requiring the abolition of facing-point switches.

The British observer is naturally surprised to see that our safety

measures are enforced primarily by the newspapers; he is scandalized to learn that the cause of some of our worst accidents is never known, and hence that preventive measures do not follow. For example, the Mento wreck, on the Lake Shore, is still unexplained, after incomplete and unscientific examinations made by coroners' juries and the inefficient State Railroad Commission. Two things, however, have always worked to hinder really useful work by any national railroad commission in this country: the separate state government system, and the fact that internal communications played so vital a part in the development and in the prosperity of the land that public opinion, at the outset, was not at all critical. What was wanted was railroads; if they could be safe railroads, so much the better; but this was not the essential thing. The early lines across the plains, with all their crudities, were so infinitely superior to pack trains, both in efficiency and in safety, that their shortcomings were not judged harshly. Now we have awakened to the fact that a preventable accident is a criminal thing, and we hold our railroads in low esteem because they cannot at once alter their physical structure to conform to our point of view. It is fair to say, however, that we very greatly need an institution with inspection powers like those of the British Board of Trade, but with expense ideas tempered to the wide difference in situation.

To revert from the Board of Trade to the lodge characteristic of British lines: the baggage system, plus the cab arrangements, never fails to delight an American. He never knows, and never can be made

to know, what there is in the system that offers the slightest hindrance to the professional collector of other people's baggage; he is fully convinced that the porter would place on his hansom any bag he designated as his own, without a moment's hesitation. In a country where checks are not used in ordinary baggage handling, the entire system rests on the simple affirmation, "This is my bag." Yet the claim departments of British railways find that theft of baggage from station platforms is practically a negligible item in their accounting. From the standpoint of the ordinary traveler, the British method is incomparably superior to ours. A four-wheeler in London costs a shilling for the first two miles. Add a few odd pence for each piece of baggage carried outside, and construe the distance liberally, and you may arrive at the station, with all your paraphernalia, for a ridiculously small sum. English visitors to New York habitually dine in tweeds on the night of their arrival, because the expressman, who lightly guarantees immediate delivery of their belongings, finds it more convenient to call the following morning.

The Englishman travels with two kit-bags, a hat-box, an ulster, and a rug, and never carries any of these things himself. He marvels at the hidden resources of the American dress-suit case, not understanding the stern necessity that requires us to provide apparel for the day in such form that we can manage it without relying on the porter or the expressman. It has always seemed to me that the polite porters who swarm about English railway stations were, in the last analysis, re-

sponsible for the abominable coldness of the trains; for without the porter's assistance the traveler could not manage his ulster and his rug, and would be unable to regard a railway journey as akin to a drive in an open carriage. Our trains are overheated, and we remove superfluous outer garments when we travel; English trains are really not heated at all, and the traveler must dress as he would dress on board ship.

Taking into consideration all the differences, great and small, it is hard to say with conviction that the railway system of either country offers any marked advantage over the other in the comfort it affords the traveler. England is a land of short distances; and, speaking of the lines as a whole, they subordinate their freight business to their passenger business. In this country we unhesitatingly subordinate the passenger traffic. As a result, the English service offers many more short-distance trains, which run with infinitely greater punctuality. But the long-distance traffic—that is to say, the service between England and Scotland—lacks many comfort-giving features to which we are accustomed. The traveler in the fall and winter months is likely to be chiefly concerned by the coldness of the trains, mentioned above. He is also expected to remain in one place throughout the journey; there is no library car at the front of the train, no observation smoker at the rear. In recent years an excellent dining car service has been maintained on the best trains; but dining cars are still somewhat of a specialty, rather than an essential feature of a through train. As an alternative there is the basket lunch—a cold

chicken, lettuce salad, bread, butter, and cheese, designed to be eaten from the lap. Personally, I am inclined to think that an American dining car affords more nourishment and considerably more variety than does a basket lunch; but this is a moot point. The dining car at least gives the traveler a chance to move about, and to substitute oak and rattan for plush. The English dining car, when found, is so thoroughly satisfactory that it may rest exempt from the criticism of a reasonably philosophic traveler.

The same is true of the British sleeping car, which, like the diner, is a recent development, but is now always to be found on the Scotch night expresses. Each passenger has a narrow compartment to himself; there are no upper berths, and there is an individual washstand in the compartment. If the journey begins at bed-time and ends at getting-up time, the traveler will be thoroughly comfortable; but if he is bound to a point not reached by his rising hour—Aberdeen, for example—he must needs make up his own berth and remain in his compartment; the cars are not convertible into day coaches, and he must be content with a basket breakfast, likewise eaten from the berth.

The upshot of a comparison between English and American railways is that each country has provided itself with the system that, broadly considered, answers its own needs the best, and that, when all circumstances are taken into account, neither has much to learn from the other. Certain great defects stand out in each; English railway financing and American railway carelessness are both deserv-

ing of censure. Yet these defects are quite explainable in their outgrowth from the physical conditions at hand, and they are not amenable to any off-hand remedy. Likewise, certain points of especial attractiveness, such as the English baggage system and the punctuality of trains, and the American luxury of through travel, have arisen from a complicated set of local circumstances, and

could not be transplanted unless all the circumstances were transplanted as well. Most forcible of all is the impression gained by such a study that the essential belief, the very creed and doctrine of one country, as regards the economies of its railway working, may not be so much as discussed in another, where the same ultimate problem is gotten at in a wholly different way.

Glasgow, an Extraordinary City

BY FREDERICK C. HOWE IN SCHIESSER'S MAGAZINE

Glasgow has always been held up to Americans as a model municipality, clean in its public government and its administration of public utilities. In the following extract from a long and extremely interesting article the author gives the grounds for this good name. He carefully and respectfully, the whole machinery of government, and writes from a close acquaintance with it.

HERE is a city which knows no boss but itself; which takes the merit system as a matter of course, and without any law enforcing it; a city which keeps its officials in office as long as they will stay or as long as they serve the convictions of their constituents; a city which makes its enterprises pay, and pay big, and watches its finances as prudently as the most conservative banking house; a city in which it is the ambition of every citizen to serve without pay and without return save in the approval of his fellows.

Here, too, is a city which knows no favor, no friendship, no politics, in the choice of its servants. "Wanted, a Town Clerk. The Corporation of Glasgow," so the newspaper advertisement runs, "invites applications for the office of Town Clerk, which is about to become vacant. The salary will be \$10,000 a year." Here was the most important sal-

aried office within the gift of the council, an office which combines the duties of the city solicitor as well as all the clerical duties of the city, hunting for the man, much as a German city looks for a lord mayor, or an American college or church searches for a president or a minister. The corporation was offering its most influential post to the candidate from all Great Britain best qualified to fill it.

Here, too, is a city in which all citizens are united demanding efficient service and securing it; a city in which the privileged few who own the franchise corporations in America and the unprivileged many who are seeking a job are united with the city rather than against it. For Glasgow offers no franchises whose values run into the millions as a tempting treasure to gamble for. There are no privileges to corrupt the council; no big financial interests to unite the rich and influential, the

press and the bar, the club and the church on one side, and leave democracy outwitted and united blindly to carry on the burdens of self-government. This absence of privileges frees the best talent of the city; it unites its purse with its patriotism. It is this absence of class interest that binds and fuses the whole people into one ambition—an honest city, an economical city, a serviceable city. And they get it, too. The city's properties are worth \$85,000,000, and the annual revenues from reproductive undertakings alone, exceed \$15,000,000. All these enterprises are handled with the most scrupulous honesty. None of their earnings sticks in the hands of contractors, workmen, or clerks on its way to the city treasury. Such a thing as official corruption is almost unknown.

A city with such a citizenship would have gotten good government under any charter. So it was not the form of government that explained it all, although the method of choosing the council makes it very easy to secure good men. Nor is it home rule. For the British city is more dependent upon Parliament than the American city is upon the State legislature. Parliament is not exacting in its control and supervision of the city. Special permission has to be got at Westminster to enter any industry, to build tram lines, to lay water or gas mains, to borrow for any improvement. Parliament determines the amount which must be laid aside in a sinking fund for all undertakings. Its finances and its activities are only determined by the people after Parliament has given its consent, and it took five years of unremitting effort to secure permission to run the telephones.

The absence of the spoils system offers some explanation. Only it is a result, not a cause, for there is no act of Parliament making the merit a *stem compansory*.

The explanation of Glasgow is deeper down than the form of the charter, deeper than the merit system, deeper than the method of electing councilmen by popular nominations—important as these things are. It is deeper than the Scotch character, thifty, prudent, and careful though it is. I fancied it was the Scotch character, despite conditions in Pittsburgh, the most thoroughly Scotch, as it is among the worst of American cities. So I went to Edinburgh, the most beautiful of all British cities, as it is the centre of culture, literature, and traditions of Scotland. Here one should find the Scotchman at his best. I went to the Town Hall. The Lord Provost and the town clerk were away. I wanted to see the council. It would not meet for several weeks. It seldom met oftener than once every three weeks. I looked into its enterprises. "We don't go in for such things as Glasgow does," said an official. "We lease our tramways to a private company. The gas and water are in the hands of a parliamentary commission. The members of our council are too busy with their own affairs to devote much time to the city." Glasgow, I found, was in disfavor. Its thrift and enterprise were undignified—almost vulgar in the minds of the Scotchman of the capital city.

So I returned to Glasgow, to the man on the tram, to the business man in the club, to the tradesman in his shop. For I had come to believe that it is the people that ex-

plain the official, that it is they who control the administration. We have seen that fact in Cleveland, where the people have achieved efficient government; we have seen it in Chicago, where, if the people have not good government, they at least have aspiring administration; we have seen it in Philadelphia—which is a people in eruption.

So I went to the people and listened to their talk of Glasgow. But it was not Glasgow, so much as it was the trams, the gas, the telephones, the parks, the hurrying grous, the hats, the concerts, the splendid sewage works, and the everlasting rates. It was the Aldermen So-and-so, and his speech at the last council. It was Scott Gibson and his condemnation of his fellow-members for voting a few pounds out of the treasury for some dinner or other. It was a longer ride on the trams for a cent. For the man on the street knows about these things. It is this that keeps him alert. He is a good citizen because it is his city; it gives him more for his money than anyone else, and it gives him many things.

So I came to believe that the Glasgowian loves his Glasgow, as his forefathers loved their Highlands, because Glasgow loves its people.

"We don't compare our tramways with Manchester or Liverpool," one of them said to me. "We have the best system in the United Kingdom." I think that is true. I have ridden on most of them, and the Glasgow system seems to me the best of them all. The service is as frequent as could be asked, and you get a seat for a fare. You get it on top of the ears if you want a smoke, and the cars go everywhere. They are clean-

ed and disinfected every night; they are bright as fresh paint can keep them; they have no advertisements on them; they are easy riding and are laid on concrete foundations with grooved rails, which offer no obstruction to other traffic. The conductors are courteous—they have to be. They have 1,000,000 critics, all watching them.

I went again to see Mr. James Dalrymple, the general manager of the street-railway system. He had been recently promoted to the position from that of head bookkeeper. The chief, Mr. James Young, had resigned, and his first and second assistants had been rolled to other towns. The managers of the British tramways are not often engineers. They are business men whose duties are those of administration. They are not electrical experts. Mr. Dalrymple had just returned from America, where he had gone in response to a request from Mayor Duane of Chicago. He did not tell me his impressions of America, or express an opinion of our ability to manage municipal enterprises. He did say that he had made a study of the street-railway systems in America and had been entertained by the managers in all of the leading cities. And their opinion of municipal ownership and American politics we all know. But Mr. Dalrymple is a Scotchman. He could not be that and not be convinced that no other people in the world can do what Glasgow has done. That's Scotch nature. They feel that way even toward England. It's human nature, too, for haven't we been sending men to Glasgow for years to learn how that city does things?

GLASGOW, AN EXTRAORDINARY CITY

For Glasgow has made good on her tramways. A private company ran the system from 1871 to 1894.

But the service was bad, and the treatment of the employees intolerable. The people protested. They tried to regulate the abuses. The company was arrogant; for what could the city do about it? Then Glasgow awoke. A campaign for municipal ownership was started. Two elections were fought over this issue. In 1892 the city decided to take over the operation. This was done two years later.

The private company predicted failure, and the city would go bankrupt. So they refused to sell the council their cars, because they expected the system to come back to them in a short time.

The first thing the city did was to reduce the hours and increase the wages of the employees. Then free uniforms were added, along with five days' holiday each year on pay. This increased consideration for the employees now costs the department something like \$500,000 a year. The council did not stop here. Hours were lengthened and fares cut down 33 per cent. To-day one may ride a half-mile for a cent; two and one-third miles for two cents; and three and a half miles for three cents. For fares are arranged on the zone system. You pay for what you get. The main thing is, what does the average rider pay? In 1905 it was 1.89 cents, while the average fare charged per mile was nine-tenths of a cent. Of the 195,000,000 passengers carried, 30 per cent. paid but one cent, 60 per cent. but two cents, and only 10 per cent. of the total number carried paid more than the lat-

ter sum. All fares in excess of two cents might be abolished and the earnings would hardly show it.

And the cost to the city for carrying the average passenger (not including interest charges) was just under one cent in 1905. An examination of the earnings and expenses shows that the Glasgow tramways could pay all operating expenses, could maintain the system, could pay local taxes the same as a private company, and still carry passengers at a universal fare of one cent. It could do this, and make money. On the basis of last year's earnings it would make about \$75,000, even if there was no increase in traffic. For the operating expenses and maintenance charge in 1905 were \$1,884,150. If the 195,767,519 passengers carried had paid one cent each, the earnings would have been \$1,957,675.

But there would be an increase in traffic. Glasgow proved that in 1894 when it reduced its fares by 33 per cent. In three years' time the number of passengers carried doubled; by 1905 the number had more than tripled. This was accompanied by a great increase in the mileage of the system, as well as the electro equipment of the lines. But all over England they say it's cheap fares and good service that make municipal dividends on the tramways. The chief complaint in Glasgow is that the tramways make too much money. The man who rides protests mildly that his fare should be still further reduced, or the length of his ride extended.

During the first eleven months after opening the system in 1894 it earned as a horse line, over and above operating expenses, the sum of \$208,-

525. Since that time the growth has been tremendous. The system was opened with 63 miles of track. It now has 147. The gross earnings were \$1,060,187 in 1895. In 1905 they were \$3,721,834. During the same period the number of passengers carried increased from 57,104,647 to 105,767,519. The council is almost embarrassed to find proper means to dispose of the profits. In 1905 the system paid working expenses, put \$334,636 into maintenance and repairs, and paid \$188,731 in local taxes. There still remained \$1,837,704 as net profits. This was equivalent to a dividend of 12.3 per cent. on the total capital investment in the plant, and 29 per cent. on the present outstanding indebtedness.

That is why the man on the tram complains. He says the council is not only making him pay for his ride, but also pay for the plant, by charging twice as much as it costs to carry him. He thinks it unfair to compel this generation to make a present of the enterprise free from debt to the next one. He points to the fact that the system is worth \$14,065,395. In eleven years' time the debt has been reduced to \$8,833,939, while \$762,873 additional has been paid into the "common good" as well as a like sum in taxes. At this rate, the plant will be free from indebtedness in less than ten years' time.

The council replies by saying: "Look at your fares. They have been cut down one-third. Those who travel are better off by \$1,600,000 a year than they would have been under private management. In eleven years' time the savings alone to the passengers exceed the total bonded debt now against the system. The

enterprise has already paid for itself out of earnings and savings. It looks as though it had not only paid for itself, but earned about a million dollars besides. It has also repaid the cost of the old horse lines, as well as a splendid manufacturing plant where all the cars and equipment are built by the city by direct labor."

Such, at least, are the figures which "The Glasgow Corporation Tramways" publish to the world. I asked Mr. Dalrymple about the effect of municipal ownership on the people. He said:

"The opening of the trams in 1894 was coincident with many people would say it was the cause of, the renaissance of civic enthusiasm that has characterized the last ten years of the life of the city. Undoubtedly the more things the city does for the people, the more the people are interested in the city. Municipal ownership fosters interest in municipal affairs."

The man on the tram is evidently right. He owns the trams; therefore he is interested in them. He owns the gas, the water, the electricity supply, and the telephones. Therefore he watches them. He loves Glasgow just as does the Lord Provost, the hard-headed alderman, the man in the cloth, the care-taker of the city's sewage works. The city is his parent. It cares for him. And it is worth working for. It is so big in its ideals, so big in its achievements, so big in its kindness and goodness.

The Glaswegian still grumbles a little in his pride. Probably he will always grumble. That is one of the things government means to him. He got his trams, his telephones, his

parks, his concerts, by grumbling. But his present trouble is a bigger one. He says: "We extended our tram lines far out into the suburbs; we had so many poor, such terrible slums, so much sickness, vice, and misery. We wanted to give our people a chance, wanted to get them out of the tenements and into the country where land was cheap. We reduced our fares. In consequence, earnings fell off. Instead of making land cheap for the poor, we made it valuable for the landlords. We cut down commuters' fares a pound a year, and rentals went up exactly one pound a year. We sought to secure cheap homes for our people, but the land speculator appropriated the whole thing."

Then he did what he always does—this Glaswegian. He worried the council, and the council in turn went to Parliament. The council said: "We have created immense fortunes for the land-owners about the city. But not content with what he has already got, the landlord wants more, and sits idly by until the people must have his land at any price." The council introduced a bill in Parliament to tax these land values and retake to itself a portion of the millions which its enterprise had created, and which it is now forced for using. It did more. It laid aside \$5,000 to promote the bill. Tons of literature were distributed and the city's officials were turned into agents for propaganda work. When Glasgow wants a thing, it wants it hard. Then the council called a conference of cities on "The Taxation of Land Values." More than one hundred local authorities responded. Then they all moved on Parliament and

proceeded to worry the members. Of course, Parliament wouldn't listen. For the members of Parliament own Great Britain. They are getting rich out of the growth of the towns. And they have paid no taxes on their land as land for several centuries at least. This is a fact—English land has not been reappraised for taxation since the seventeenth century.

In its attitude toward Parliament, Glasgow reminds one of a terrier barking at the heels of a mastiff. I fancy Parliament must hate this heckling, thrifty municipality that is forever making war on the shames and privileges which everywhere exist in England and which are so profitable. For the members of Parliament not only own the land, they own the big city franchises, just as the United States Senate owns or represents the big railroads. And it must be annoying, this nagging against monopoly. But that's the way he got his municipal telephone system. For five long years the city spent money and energy trying to induce Parliament to permit it to open an exchange in competition with the private company which was giving half service and charging high rates. It finally got permission in 1901. The system has now twelve thousand subscribers and covers 143 square miles. An unlimited telephone service cost \$25.55 a year, and a limited one only \$17.03. The population served is about a million. Then the private company reduced charges. But despite the cheapening of rates, the exchange makes money, even in the face of the competition of the old established company.

The telephone was the last big enterprise taken over. The city has

had the water supply since 1855. It bought out two private companies. Then it went to Loch Katrine, 34 miles away, in the heart of the Highlands, to get a supply. Glasgow spent millions for pure water, and now has one of the finest supplies in the world. It makes money, too, though the rates for domestic use are but ten cents in the pound of rental. This means that for every \$100 of house rental paid an additional charge of 42 is made for water service.

The gas supply is also owned by the city. It was bought from private parties in 1869. It is run for the benefit of the people and not for the sake of dividends. Gas is sold at 51 cents a thousand cubic feet for domestic use; for power purposes the price is but 43 cents. The very poor are encouraged to use gas by penny-in-the-slot devices by which one can get enough gas with which to cook a meal for two cents. It also encourages industry by low prices. This diminishes the smoke nuisance. Despite the reduction in price, the net profits in 1905 amounted to \$271,930.

The price of gas has been reduced from year to year. It was 78 cents in 1885, 60 cents in 1895. To-day it ranges from 43 to 51 cents. The financial showing is almost as remarkable as the tramways. While the capital expenditure is \$18,319,170, present actual indebtedness is but \$9,349,290. The surplus of expenditure, over and above the debt against the undertaking, is \$8,974,

970. This is what the city has made through owning the plant, in addition to the millions saved by cheaper gas.

The electricity supply has been owned since 1892. The city bought out a private monopoly for \$75,000. Then it proceeded to make the plant useful. For that is the policy of Glasgow, to make itself useful to its people. It proceeded to enlarge the system, to extend the conduits all over the city. It has since spent about \$6,000,000 on the undertaking. Now it can serve everybody, and serving everybody, can reduce charges. It also sells power to the tramway department and to manufacturing plants. For Glasgow tries to encourage industry just as it aims to promote comfort and convenience. For very small consumers, the rates for lighting are 12 cents per kilowatt hour and 2 cents for all current in excess of a small minimum. For power and heating purposes, the charge is from 1.1-2 cents to 3 cents according to the quantity used. The average price received from all consumers is 5.69 cents.

Glasgow says it would be just as absurd for the owner of a sky-scraper to permit a private elevator company to collect fares from his tenants, or for an outside plumber to own the fixtures and collect for light and heat, as it is for a city to turn over its streets to private tramways, gas and electric lighting companies. Glasgow prefers to do its own plumbing and run its own elevators.

Character in Letter-Writing

BY EASILY TOSSE IN MONTHLY REVIEW

The writer is a specialist who has carried on a great deal of correspondence with a great many people in different walks of life. The conclusions he has made from his experience are very extraordinary and his references to particular cases unusual.

IN the pursuit of an avocation that necessitates my writing to persons of many sorts and conditions and in many different ranks in life, and that, I am afraid, occasionally necessitates my worrying strangers, I have for some years past been afforded opportunities of judging character, not by hand-writing, for the great majority of busy men and women nowadays employ secretaries, but by the way in which letters are expressed. A great number of persons to whom I wrote in the first instance as a total stranger I have since come to know personally, and intimately, and in few cases indeed have I found that the opinion I had formed of these individuals, judging solely by the way they expressed themselves in their letters, had been a false opinion.

The letters I have received from persons to whom my name is, or was, quite unknown—and the total number of these letters runs into hundreds—may, broadly speaking, be divided into three sets; namely, the courteous, the discourteous, and the strictly formal. And here let me say at once that I have found that, contrary to the popular belief, true courtesy has nothing whatever to do with good breeding. I have had letters from men and women who can trace their pedigrees back almost "so far that the memory of man runneth not to the contrary," that were courteous in the extreme in tone and style; but I have also many letters

from persons of equally good breeding that only a man who at heart was a snob, on a sycophant, or a prig could have written. Upon the other hand I find among the pile of letters before me as I write, communications from both men and women of very humble origin, but who have now risen to eminence, that for consideration, kindly feeling, and very great courtesy, could hardly be excelled. Indeed, upon comparing the one set with the other I find, to my astonishment, that the balance of courtesy rests with the latter. The letters that the least afford indications to their writers' characteristics, temperament, or peculiarities, are, of course, those communications that are of a strictly formal nature.

The following letters form an example of the striking contrast there is in the way men answer inquiries put to them civilly. I had been commissioned to write an article on a question of some importance at the time I applied to them, and to obtain as much expert opinion upon the subject as possible. The letters I addressed to the various men I deemed in a position to furnish the information I needed were to all intents and purposes identical. It is not difficult to read between the lines the temperament of the man who wrote the following reply:

"I shall have great pleasure in doing what you ask. This week, unfortunately, I am more than ordin-

ily busy; but you shall hear from me early in next week."

Now the manner of the man who wrote the following in reply to the same inquiry:

"I am not sure that I have the privilege of your acquaintance, and I decline absolutely to grant your impudent request."

It was in reply to a similar letter of inquiry that the following answer reached me:

"The enclosed slip contains the expression of my views upon the matter referred to in your letter, and I take this opportunity of thanking you for the compliment you pay me in desiring my opinion."

And the following:

"In answer to your letter,—desires me to say that he is not in the habit of conferring favors upon strange gentlemen."

A lady I employed as secretary was directly responsible for the following two gems, which speak for themselves. Through an oversight she had addressed the letter intended for, let us call him Mr. Brown,—though his name was not Brown—to Mr. Brown-e. By return of post Mr. Brown wrote:

"I really am much too busy to answer letters from strangers, more especially from men who know so little about me as to write my name with an 'e.'"

The other was yet more whimsical:

"Sir John Smith presents his compliments, and wishes me to say that he is not in the habit of corresponding with lunatics."

Enclosed was the envelope that had contained my letter. It ought to have been addressed to Sir John Smith, Bart. Instead, the address, which was type-written, appeared,

Sir John Smith, Rats. When I drew my secretary's attention to this trifling error in spelling she became almost hysterical. She declared that she had been very tired, and that when you become tired your type-writing machine is apt to take strange liberties—a statement that all who use a type-writing machine will know to be true. Consequently it was not until some weeks later, when a descriptive report of the movements of a great fog in the Channel, that I had dictated to her, appeared in the typescript with the weird heading, "Great egg in the Channel," that I deemed it expedient to seek another assistant.

I could quote many more letters that serve to indicate the peculiarities of their writers' natures, but the foregoing will suffice for the moment. It is a curious yet indisputable fact, however, that quite a considerable section of the educated community is fairly imbued with the belief that a brusque, arrogant manner denotes strength of character. What can first have given rise to this erroneous supposition it is difficult to conceive. My own experience and observation lead me to conclude just the reverse. Almost all our successful organizers, pioneers in commerce, politicians, statesmen, literary men, lawyers, doctors, financiers, actors, artists of all kinds, are courteous in the extreme, and their courtesy is in most instances revealed in the tone of the letters they have occasion to write to persons with whom they are not acquainted. The successful men who lack courtesy have succeeded in spite of their unfortunate personality, not because of it. It was no less successful a man than Sir

Alfred Jones who said to me only recently, "In these times no man has a right to be, or can afford to be, discourteous;" and as an afterthought he added, "even to his office boy."

The idiosyncrasy in certain circles, that the newly-rich constitute, as a body, the least considerate if not the most unobsequious and person-prond class, is not borne out by facts. The remark made lately by a well-known diplomatist that "no snob is really so unobsequious as a well-bred snob," is probably one of the truest of utterances. Judging by the tone of his letters, the modern man of humble origin, who has amassed wealth through his individual industry, is businesslike and methodical, but he is seldom overbearing. His shortcomings are a tendency to be patronizing, and generally a lack of humor, the latter characteristic possibly denoting that Dr. John Watson (Ian MacLaren) was right when he recently pronounced a sense of humor to be "a hindrance to practical success in life," though one could wish this were not so. The great proportion of men who send postcards "in haste" to say they are "much too busy to answer" belong almost always to the class that devotes several days a week to golf or some equally engrossing occupation. Men who really are busy find time to answer letters, and they answer usually by return. Mr. Gladstone used to answer every letter he received—begging letters from obvious impostors alone excepted—and he never dictated his replies; also, I believe I am right in saying, Mr. Joseph Chamberlain seldom leaves a letter unanswered.

Among my collection I find a few

letters that can best be summed up in the one word "gushing." Experience teaches me that the habitual writer of the "gushing," frothy effusion, is seldom a man to be trusted. As a rule he ends by revealing himself to be a humbug, if not a hypocrite, and eight times out of ten he finishes by wanting something, it may be a loan, it may be only note of introduction. I print one specimen only of the "gushing" letter, word for word as I received it.

"My very dear Sir,—I was most charmed to receive your most courteous communication, which let me hasten to answer. I can assure you it will afford me the very greatest of satisfaction to show you . . . and to furnish you with every particular. But won't you come and lunch with me, and let me introduce you to my wife? I know she will be as delighted to make your acquaintance as I shall be; in fact, we are both quite looking forward to your visit. . . ."

And so on. Yet there was no reason, there could not have been any reason, why this man, or his wife either, should honestly have looked forward to meeting me, a complete stranger. They had no interest in my concerns, and I had none in theirs. But before I quoted their "hospitable" and they made use of every means of persuasion in their power to get me to write a newspaper article in praise of some property in which they were interested.

I feel it is almost unnecessary to mention that a considerable proportion of the people to whom one is compelled to apply for information at one time or other, do not reply. Such persons belong to one of three groups. The first group is made up of men and women who, being, to put

it plainly, too lazy to write any letter they can avoid writing, are in the habit of remarking sentimentally that they "don't answer more letters than they can help—on principle." The second group consists of well-meaning people either devoid of method, or addicted to procrastination, who will tell you seem-apologetically, when you meet them, that they "ought to have answered that letter of yours," but that they are "so'n' shocking correspondents." The third group embraces the self-complacent little crowd who observe, when the subject of not answering letters is

broached, that they find that "heaps of letters answer themselves," and they generally roll off this platitude as if it were an original phrase, whereas it dates back to the time of Disraeli. Some men become extremely annoyed when their letters are not answered, in the same way that others lash themselves into anger when they receive rude letters; but, to adapt to the present case the sentence of a famous statesman, "when there is so much in life that is really vexatious it would seem more waste of annual economy to let such pin-pricks disturb one's equanimity."

Reading Biographies as a Stimulus

WE cannot help living in some degree the lives of heroes who are constantly in our minds. Our characters are constantly being modified, shaped, and molded by the suggestions which are thus held.

The most helpful life stories for the average youth are not the meteoric ones, the unaccountable ones, the astonishing ones like those of Napoleon, Oliver Cromwell, and Julius Caesar.

The great stars of the race dazzle most boys. They admire, but they do not feel that they can imitate them. They like to read their lives, but they do not get the helpfulness and the encouragement from them that they do from reading the lives of those who have not startled the world so much.

It is the triumph of the ordinary ability which is most helpful as an inspiration and encouragement. The life of Lincoln has been an infinitely greater inspiration to the world than the life of Napoleon or that of Julius Caesar. —Success Magazine.

Man's Opportunities Lie Everywhere

BY NEWELL DWIGHT HELLS IN WORLD MAGAZINE

Taking two striking examples of successful industrial careers, Dr. Hells points out that in the period of success everything after all depends on the man. Opportunities lie ready to our hand, and it is only man's blindness and his foolish belief in circumstances and limitations that prevent him from making good.

SUCCESS represents a rule in three: Multiply one's talent by one's opportunity and divide by circumstances and limitations and you have the career. Unfortunately, the divisor called circumstances is often made too large. Strictly speaking, everything depends on the man. Every day I hear some youth exclaim: "If I only had a chance!" "Give me his place," with similar expressions, indicating an over-emphasis of opportunity, and an under-emphasis of self-reliance. The simple fact is that some of the greatest cotton mills are a thousand miles from the cotton fields, some of the greatest steel plants are a thousand miles from the iron mines, that gold ore is often smelted at distances remote from the quartz and that South African diamonds are polished in Amsterdam and African silk woven in New Jersey looms.

Up in Cortland, N.Y., is one of the greatest wire factories in the world, owned by two brothers whose business could not be bought for millions. Thirty years ago these two boys left the farm to start a little hardware store in the village. One day a customer failed, and the only thing they could get for the debt was an old hand loom for weaving wire for a floor sieve for the housewife in the kitchen. Now, nothing was more unlikely than that they could do anything with the old loom. What! Found a wire factory at Cortland? Their competitors scoffed at the idea. They were hundreds of miles from

the seashore—that meant freight bills. They were hundreds of miles from the coal fields—that meant a heavy handicap. They were a thousand miles from the iron mines—that route was prohibitive. But they went to work. They knew that everything depended on the man.

In the face of every obstacle they have a business employing fifteen hundred workmen. Last week I saw them take a billet of steel six feet long and one foot square, weighing sixteen hundred pounds. When the billet came out at the other end of the factory it was a tiny wire thread, flexible as silk, forty-five hundred miles long, that would reach from New York to San Francisco and on to Sitka, Alaska. Fifty dollars' worth of steel wrought into wire gave embedded in crystal glass had taken on a value of \$5,000. For intellect is a magician. Put these two brothers a thousand miles from the base of supplies and they will turn a heap of red iron rust into some mechanism of use and beauty. Plainly everything depends upon the man.

Less than a hundred miles away I found another proof that it is the man that makes the industry, the tool, the town. Fifty years ago in Norwich, N.Y., was a young blacksmith, ambitious for success. His town held a hundred houses; far to the north was one railroad, to the south another. The youth was isolated, and shut out from the great world of commerce. One day a contractor, who had agreed to build a

barn, came to the young blacksmith and ordered six hammers, the best that David Maydole could make—hammers whose heads would not fly off the handle.

"Perhaps you will not want to pay for as good a hammer as I can make," answered the young blacksmith.

"You make me a perfect hammer and we will not quarrel about the price."

"But," said Maydole, "a perfect hammer means three new changes that have never been put on any hammer. It means that the head must be very hard in its temper, to drive the nail. It means that the claws must be tough, to pull out the nail, representing a different temper for steel. Then it means that the central part of the hammer must have steel that extends out along the handle itself—steel that is flexible and soft. This means a third kind of temper."

David Maydole made those six hammers, and they were perfect hammers. The heads never flew off, the claws were tough, the top was chilled steel that drove the nail to its sure place. But each hammer turned the carpenter who owned it into an advertising agent. Without Maydole knowing it, one man started to New York to spread the fame of the best hammer in the world. Another carpenter started for Buffalo and another to Boston. Soon Maydole began to receive orders for hammers.

One day a Scotchman came to Norwich, N.Y. He was amazed at the great factory, but when men told the traveler that this was the best hammer in the world he scoffed at the idea, insisting that it was a hammer made in Great Britain that held the first place. He therefore sent an order to an old friend in Glasgow to

find the best hammer he could in England and send it to him, so that he might meet a wager which he had made in Norwich, N.Y. One day the package reached the village store and the hour came for testing the merits of the Maydole hammer and the strange English hammer. But when the package was opened this hammer that had journeyed all the way from England to Norwich, N.Y., was found to bear David Maydole's name, having first of all traveled to England, to meet a hardwareman who wanted the best hammer in the world.

Norwich, N.Y., had no coal mine, no iron mine, but it had a man. Costland, N.Y., had no steel plant, no looms, but it had two men. Everything depends upon the man.

For all young men ambitious to get on the lesson is so simple that he who runs may read. Begin with the thing that is nearest at hand. Are you working in cloth? Save the wastes. Are you handling a delicate tool? See if you can make it more perfect. Are you looking for a chance? It is so close to you that if it were an ogre it would bite you. Why buy a ticket to California or Washington or Canada, when there is a vacancy hard beside you?

The more difficult the task the more development and growth there is in mastering it. There is not a tool in the world that cannot be made ten times as good. There is not a business to-day that is not full of wastes that could be saved. The method you are using to-day is already outgrown, and why may you not find a better one? Young man, work more with your head and less with your hands. Go to the library and get some text books on your own occupation. There is a fortune waiting for you. Stop thinking about

what your father is going to leave you. Forget Solomon's advice to nephews: "Go to thy aunt, thou sluggard!" and fall back on yourself. Consider what opportunities you

have lost through indolence and drifting and sloth and ease. The time has come to awake and rise from the dead to a new life of purpose, self-reliance and success!

A Humble Start No Disgrace

SMITH'S WEEKLY.

Too many men have a pride which their station is life. They have examples to be humble things, far less their good name will be destroyed. But there are some earnest workers who do not despise the day of need, living, and by making use of their opportunities, become humble rise to successful heights.

"START on your own account, my son. Do it right now while you're young and have got some go in you. Don't wait till you are old and have used up all your energy in the service of other folks. And if you can't see any better way to set yourself going, go out into the streets and pick up pins, and when you've collected enough sell them at a profit."

Such was the advice which a cute and successful Yankee merchant offered to a youth who had just left school. The man of business did not intend his words to be taken literally. He knew perfectly well that if any young man set out to amass a fortune merely by picking up the pins he found lying promiscuously in his way, it would be a mighty long time before he scraped together a banking account big enough to make anyone else envious.

But he was talking figuratively — and he was talking solid sense, too. He simply wanted to warn his hearer not to be scornful of making an exceedingly humble start on his own account.

Probably there is no better known firm of publishers in the world than that of W. & R. Chambers, of Edinburgh. It is tolerably certain that it

would never have come into existence had its founders been too proud to start by picking up pins. Figuratively, remember, figuratively!

Young William Chambers, bookseller's apprentice, and just out of his time, without any friends to help him and with no capital other than his last week's wages, decided to set up business on his own account. He did so by calmly annexing his father's family library, consisting of a few dozen shabby old volumes.

These he spread on a stall outside a tiny booth—and sold them. With the cash so obtained he developed his enterprise a little, and then a little more, and so on, until he and his brother, whom he took into partnership, were employing hundreds of helpers.

But what if William Chambers had been too proud to start so humbly? What if he had persisted in waiting until he had saved up enough capital to start in a handsome shop with an imposing stock of brand new books? It is pretty certain that he would never have started at all.

It is this false pride, this hesitation to boldly make the humblest start, which has undoubtedly wrecked the lives of hundreds of young men who would in all probability have

done very well had they been sensible enough to be independent of appearances. It's not appearances that count in the long run.

One of the largest and most imposing theatres in London is controlled by two brothers who started their careers by selling newspapers in the streets of New York. They were ambitious and determined to get on, and they knew that if they became office boys or junior assistants in shops they would stand little chance of getting on quickly.

They realized that one's best prospects of promotion come into view when one is one's own master and can promote oneself. So they boldly launched out in the humblest style, and saved something out of the profits they made. Before very long they had sufficient to set up in something better, and were fairly on the road to fortune.

There was a young clerk in the employment of a large firm of tea merchants. He was only a boy, but he had eyes to see and a brain to think. He saw that the office was full of men who had spent the best part of their lives in drudging for a slender salary, and who were now getting old.

They had no capital nor profits, and their energy and ambition had been ground out of them. He saw that he was likely to become like them if he remained a clerk. If he worked for twenty years he could not hope to save enough out of a pound or thirty shillings a week to start on his own account.

"I think I'd better start now," he decided. So he resigned his berth and scraping together all the cash he had—about three pounds odd—established himself as a refreshment contractor. That is the gentle way of putting it, but the simple fact was that his

"concern" consisted of a coffee and cocoa stall on trestles, set up next the gutter at a street corner.

His ex-companions of the office were horrified. Their lordships declined to recognize him when they passed in their frock coats and silk "toppers," and beheld him, in shirt sleeves and an apron, handing out refreshments to grimy toilers and all the rag, tag, and bobtail who offered him their soiled coppers.

It was surely a come-down, doesn't cherknow—so degrading. That is what they thought then.

But they have had cause to alter their minds since. For the coffee stall grew into a small shop, and the small shop into a bigger shop. The ex-junior clerk is a "monarch of the catering world" nowadays. What would he have been if he had been scornful of picking up figurative plus?

Another young fellow horrified his relations and friends to an even greater extent. He was in a draper's shop. He "lived in." All day long he served behind the counter, and every night he spent in a stuffy dormitory, which he shared with half a dozen others. It was like being in prison, and his pay was a great deal less than a pound a week. "But it is so genteel," said his maiden aunt, "and Willie can keep himself so clean and look so nice."

Willie did not appear to be enthralled by his privileges—or his prospects, either. He had no capital to speak of, or influential friends to help him. But he abruptly resigned his magnificent situation, hired an old cellar, and went in for being a rag and bone merchant and a dealer in old bottles.

It was so awfully common! The relations shrank, the friends were scandalized. But the degenerate Willie was calm. Also pushful. He

didn't mind when his hands got grimy and gentility departed from him. He knew that there was money to be made out of dirty things, and he proposed to get hold of some of it.

It was not easy to build up that business. But he did it. He still

deals in rags and bones and old bottles. But he has deserted the cellar long ago and owns some warehouses. As to what he makes, he isn't fond of telling people, but it is certainly far more than all his old-time companions of the counter and dormitory make put together.

Canning California Breezes

BY WILBUR BASSETT IN TECHNICAL WORLD

An exhibition of the problem of refrigeration for perishable fruit and meat is now appearing at the Sybil air government special service. It is also accompanied by the discussion which always accompanies and enlightens. Experiments are being conducted which will soon lead to the production of liquid air in commercial quantities.

CALIFORNIA air condensed into liquid state and packed for export, is the latest product of the Golden State to appear upon the market. It is now possible to eat California oranges which have never left California air in their long journey across the continent, and indeed they may be served at one's table with a sauce of the breezes which blow over their native groves.

A comprehensive plant for the manufacture of liquid air and of oxygen has been erected in the city of Los Angeles, which is the only plant in the country manufacturing these products on a commercial scale, with the exception of a New York plant whose output is confined to surgical and metallurgical uses. The plant will presently have a capacity of 450 gallons of liquid air or 50,000 cubic feet of oxygen per day of ten hours. With an unlimited supply of raw material and an output limited solely by the capacity of the compressor, there remains only the question of finding a market, and present indications point to a growing demand for these novel wares.

Situated in the heart of a warm, fruit-growing country, without natural ice, and separated from its chief markets by tremendous stretches of hot country, the question of refrigeration of fruit cars is one of the most important which the Californian has to consider. If, as is hoped, the product of the Los Angeles factory can be used as a successful substitute for manufactured ice, the market is at hand, and the new industry is ideally located. Fruit-growers, car-builders, merchants, shipping agents, and packers await with interest the extended trials which are now being instituted.

This question of refrigeration of ships and icing of cars has come to be one of the living issues of the past few months, through the spirited controversy arising over the alleged abuses of the private refrigeration system; and the details of the far-reaching and costly organization of these systems have been made known to an interested public. The importance of economical and effective refrigeration to the public welfare and the private pocketbook, has

been illustrated by these discussions in the public print, and the problem has ceased to be one of special and technical interest.

Whether liquid air is the solution of one phase of the problem, the conservative investigator is not yet ready to answer; but the indications are persistently pointing that way, and so definite and probable are these indications of success, that politicians, and operators of refrigerator-car lines, have entered into a contract with the Los Angeles manufacturers for the erection in Chicago of a still larger liquid-air plant, and are about to enter into experiments in its use upon an extended scale which will leave definite results in the near future. Meanwhile the use of liquid air in the arts and crafts and in medicine continues to increase the demand, to offer new applications for its use, and to extend a knowledge of its properties.

So little is as yet generally known of its nature and habits that it is only recently that the express and transportation companies have consented to transport it under any circumstances. It is now shipped daily to distant points, in tanks of galvanized sheeting, with no thought of danger.

The process of manufacture of liquid air and its suitability for purposes of refrigeration, are easily understood by the layman. It is a matter of common knowledge that the change of any substance from the gaseous to the liquid or the solid state is accompanied by a change of temperature; or, in other words, that the state of a substance, as to whether it is gas, solid, or liquid, depends upon its temperature. Thus water at a lower temperature be-

comes ice, and at a higher temperature steam. Ice occupies a slightly larger volume than the water from which it came, and steam a much larger volume, so that the volume and temperature both vary.

The first-hand way to reduce volume, whether of a bale of hay or a given gas, is by pressure, so that the process of reduction of a gas to a liquid is seen to consist in lowering its temperature and condensing it by pressure.

Early experimenters ignored the assistance to be gained by lowering the temperature, and strove to procure results by pressure alone. It was presently found that pressure alone, without means of attaining and securing low temperatures, was insufficient. Every gas was found to have a certain temperature above which it refuses to liquefy at any pressure, and this has been called the critical temperature of the gas. As the gas approaches the critical temperature, the least decrease in temperature or increase in pressure causes it to pass over into the liquid state. The critical temperature of air is 220 degrees below zero Fahrenheit, and the critical pressure about 600 pounds per square inch, and the temperature of liquid air at atmospheric pressure is 312.6 degrees below zero.

If liquid air is allowed to evaporate, it must absorb the same amount of heat that it lost in the process of liquefaction. This heat will be absorbed from the surrounding atmosphere when the internal heat of the gas is not sufficient to effect its evaporation; and the surrounding area—he it refrigerator car or beehive—is thus left chilled by the absorption of its heat.

It is evident that if the car is chilled before starting on its journey, and all inlets closed, the only heat to be combated would be that coming through the walls of the car, so that the amount of refrigeration necessary in such a car would depend upon the completeness with which it is insulated or protected from outside heat. With the present system of ice refrigeration, the air in a car is full of moisture, which must be kept in circulation, and which is absorbed by the walls and renders the insulation incomplete and imperfect. In this respect the use of liquid air, which in process of condensation has been deprived of its moisture, is far superior to ice, as the dry cold preserves the qualities of fruit and meat unchanged. This also avoids the necessity of circulation, and thus reduces tremendously the amount of new heat to be overcome as the journey progresses.

Another strong point in favor of liquid air is its weight. As compared with ammonia and carbonic acid gas, the advantage is greatly in favor of liquid air by reason of the difference in the weight of the receptacles, since ammonia and carbonic acid gas must be retained in powerful and bulky steel cylinders, whereas liquid air may be conveyed in light galvanized iron tanks. The liquid-air tank being once in place in a car, its natural loss by evaporation would be about 3 per cent. per day, and this would also be the approximate loss in transporting it in the boxes lined with hair felt in which it is shipped from the plant. A simple automatic arrangement for forcing the flow and evaporation, makes use of the varying length due to expan-

sion of an iron rod traversing the car.

The process in use in the works of the United States Liquid Air & Oxygen Company in Los Angeles, under the direction of G. A. Bebrick, is quite different from that heretofore used, and much cheaper. Generally stated, all of the processes consist in compressing air, abstracting the heat produced by compression, and then expanding into a suitable vessel, and directing the current of expanded cold air over or along the pipes through which the incoming compressed air flows. The cooling is thus made cumulative. The incoming compressed air gradually drops in temperature until it reaches the critical temperature, when by further expansion part of it liquefies.

In the Tripler process, the expansion is effected through a throttle valve from high-pressure to low-pressure tanks. The drop in temperature due to this free expansion equals about one-half a degree Fahrenheit for every 15 pounds' drop in pressure at normal temperature, and is gradually increased as the temperature of the air before expansion decreases. To manufacture liquid air economically by this free-expansion process, it is necessary that the air be reduced by 3,000 to 4,000 pounds' pressure to the square inch in at least four stages, and the heat of compression abstracted during and after each stage.

In the Los Angeles plant, however, expansion is effected in a motor or turbine. The air thus performs external work, the drop in temperature depending upon the work done. In addition to this system of adiabatic expansion, and the free expansion

process, there is a third which combines the two processes.

Mr. Bobrick says of the cost of production:

"In practice I prefer to compress the air to about 300 pounds to the square inch, and expand it in a turbine to about atmospheric pressure. It may therefore be seen at a glance that the adiabatic expansion process is the most efficient and economical one, as, besides the great gain in thermal advantage, about 50 per cent. of the work done in the compressor may be recovered and used for compressing more air. In the third process, I prefer to compress the air to from 3,000 to 4,000 pounds to the square inch, then expand it through a throttle valve to about 60 pounds, using the air so expanded for cooling the incoming compressed air, and then expand it adiabatically in a motor to atmospheric pressure. A 500-horsepower plant will make liquid

air by free expansion at a cost of about 5 cents per gallon; by the third process, at about 3 cents per gallon; and by the second, at less than 1 cent per gallon."

It is no longer seriously expected that liquid air will prove efficient and practical as a motive power, save in a small way, where it may be used as a by-product; but its use in the purification of chemicals and wines, its employment in surgery, and its constantly extending use in connection with other gases to secure burning mixtures of extremely high temperatures for use in the welding and reduction of metals, have created a steady demand for its manufacture, and for the manufacture of oxygen by fractional distillation from liquid air. When the use of liquid air for refrigeration has been shown to be practical and economical, it must at once take its place as one of the world's great staples.

Duty is the end and aim of the highest life. The truest pleasure of all is that derived from the consciousness of its fulfillment. Of all others, it is the one that is the most thoroughly satisfying and the least accompanied by regret and disappointment.—Smiles

A Guild of Carpenter-Ants

BY HENRY G. MOSCOW IN HARPER'S MONTHLY.

In this extract the writer gives an account of a colony of these ants that lived in a beam of a floor mill. The description of their building is intensely interesting, and gives an exact idea of a world of activity of which we know little.

ONCE carefully studied a large colony of carpenter-ants that for several years had lived and wrought within the heavy corner beam of a flour-mill at Bellwood, Pennsylvania. One gang dropped the pellets from a crack in the 12-inch beam which opened into the nest. These fell upon a cross-beam, 18 inches beneath, where another group of workers gathered them up and dropped them upon the stairway that led from the lower storey, the nest being situated above the second floor.

The miller, who had been about the premises for several years, said that when he first came the ants had a third gang detailed upon the stairway, several feet below, who cleaned off the dumpage and dropped it to the floor. But as he swept the stairs daily, the emmets discovered that their detail for duty in that quarter was not needed, and withdrew it. Thereafter work went on as I saw it—the chippings cast from the cross-beam to the stairs were left to the manipulations of the miller's broom.

I have frequently found carpenter-ants lodged in the shade-trees along city streets and squares, and there they have the same habit of secretiveness—or is it cleanliness?—practised by their country congeners. Near my home stood a maple much the worse for wear and tear, although not old. On one side, a few inches from the roots, was a small tubular opening hidden behind a bulging scale of bark. Out of this ants were dropping

cuttings, which formed a little heap upon the ground. Workers wrought upon this pile, carrying pellets piece by piece to the pavement curb and casting them into the gutter.

It was interesting and amusing to watch the little creatures in this act. Having reached the curbstone, the wee porter would rear upon her hind legs, poise herself a moment thus, then bending forward, release or cast the chip from her jaws. The fore feet were used for this, being raised to the side of the face and placed against the pellet, which by a sharp forward motion was hurled away. Then would follow several similar movements, as though to brush from mouth and mandibles adhering particles of dust.

A gentle breeze, blowing at the time, lifted up the ejected cutting and carried it down the gutter, which for several feet was strewn with pellets. In some way these emmet porters seemed to have grasped the fact that the breeze aided the disposal of the chippage, which therefore need cause no further concern. One wonders whether they had any notion of the nature of this efficient conductor, and if so, what they conceived it to be? Like many human toilers, did they work on with a dull subconsciousness that a sort of "Providence" had entered into their life, which it behooved them to accept without further concern? One who lives much with these little brothers of the insect world can hardly help yielding to the fascina-

tion of such anthropomorphic musings, however idle they may be. Doubtless Mr. Burroughs is right in his stand against those who trespass upon the just limits of fiction in humanizing the actions of the lower orders. But there is an ancient offence; and strong indeed is the temptation thereto.

At all events, our rampart emmet porter there upon the stone curb's verge, committing her pellet of yellow wood-dust to the transfer of the wind and to the cavernous deep of the gutter, has plainly some idea of the situation. She knows her meets and bounds and the aidant features of the topography, and goes to and fro with the accuracy of a carrier to his dump. That implies at least an automatic sort of intelligence. Moreover, the relations of these insects to the natural elemental forces seem to differ in temper from those that appear between them and the vital energies that beset them. For example, the winds, rains, and running waters are often rude invaders of emmet homes and preserves. In such cases the attitude of the sufferers appears to be analogous to that of men in like misfortunes—not an angry outbreak of combativeness, but a more or less vigorous struggle with, or quiet submission to, the inevitable. Let an insect or other living riders trench upon their domain. That is quite another matter! The community is intensely excited. Every individual is violently pugnacious. It is a different quality of animation that one now observes. The duller eye notes it. In short, the differing behavior of men toward a flood or a snow-storm and towards an assault of bandits one seems to see in diminished reflection in the

behavior of ants under like conditions. It is this intuitive attitude toward the elemental forces, as hostile or friendly, and a corresponding acceptance of the same either as matters of course in an inevitable environment, or as casual obtruding or preventable forces in life, which has been suggested by our carpenter-men in accepting the alliance of the wind in the bestowal of the chippage from their arboreal homes. In the same spirit in which they adapt themselves to a beneficent attitude of the elements would they accept the reverse.

Let us return to our colony in the mill beam. What are the ants doing within? What sort of domicile have they wrought out? "If I could only peep inside!"

"So you shall!" responded the proprietor to my exclamation. And this was not badinage. A squad of carpenter—human carpenters (this time)—was called. The corner of the mill was shored up bodily by great supports. A section about five feet long, including the inhabited part, was sawed out and a "splice" of corresponding size inserted. The excised part was carried into the open, and my coveted opportunity had come! It is not often that a curious entomologist falls into the hands of such a liberal shelter.

The piece was sawed into two parts and carefully split open. Alas for the sacked city of the Camponotidae! "Kill no ants needlessly!" was the order to the workmen.

"Do not distress yourself!" quoth the proprietor to the naturalist. "We would gladly be rid of all the pests. This is hard upon ants, but helpful to men!"

Nevertheless, only such specimens

were taken as seemed needful sacrifices for the temple of science, and the others, a great company, were permitted to escape. As if by previous arrangement they formed an irregular column, and the workers, who at once had seized larvae and pupae and eggs, marched away with their treasures into a neat-by pile of logs, doubtless well known to them through sundry foraging excursions. Many winged forms, the males and females, accompanied or were carried by them. Their future was left to fate; it was their past that now concerned me.

As the slabs were opened and divided into convenient blocks, there was exposed the work of from eight to ten years, and Camponotid architecture was probably never before so fully laid bare. A section more than two feet high by ten inches wide was fairly honey-combed, the entings approaching at one point within two inches of the surface.

One noticed first a crude but evident arrangement of the cells into stories and half-stories, as seen in the mounds and subterranean nests of the mason-ants. The surfaces of the floors were uneven, but substantially upon the same level. Some of these stories seemed to have been formed by driving tubular galleries, which were gradually enlarged and finally blazed. There was a manifest appearance of corridors or halls, running parallel in series of two, three, or more. These were separated by columns and arches, or by partitioned out very thin, in many places just broken through. At one spot a section of one of these was entirely enclosed, forming a triangular hollow chamber an inch and a quarter high, and half an inch wide at the

base. It looked like a miniature bay window projecting over a walk. The wall was worn quite thin, making a tiny window, and there was an entrance from the rear. Was this intended for a queen-room, or for a storeroom for the eggs?

This section was the most thoroughly excavated in the entire formicary, and apparently had been the original centre of operations. There the solitary fondness queen had probably made first lodgment. As the community grew, work was pushed in all directions, terminating at the top in an irregular dome, which, with its pendant columns, resembled the roof of a limestone cavern with its drooping stalactites. This was, in fact, the ceiling or uppermost story of the formicary.

The series of cavities that surrounded the centre and formed the outer works differed in general plan from those at the centre, inclining to large open vaults rather than to a compact series of chambers. It was as though the early era of the commonwealth had been dominated by one type of architecture, characterized by clustered chambers, and the latter era by another type, the vaulted or cavernous.

Entrance to the formicary was had by circular and oblong doors pierced at irregular intervals in all sides of the beam. They opened for the most part into tubular, circuitous galleries communicating with the interior. A few entered immediately upon spacious vestibules. A vertical fissure in the beam several inches long appeared to be the main avenue of communication with the interior. At least from this crack the workers east the sawdust rasped from the inside. These openings served for

ventilation as well as for entrance and egress.

Parts of this maze of vaults and chambers were blackened, probably by the fumes and exuded by the ants. Spacious as these quarters may seem (relatively), they must have been greatly crowded; for enormous numbers of larvae, pupae, eggs, and mature ants of all castes were housed within them. How many speculations arise as one pictures such a community enacting on its varied and complex duties—excavating and shaping roads and rooms, caring for queens and winged sexes, collecting crumbs, nursing and feeding the larvae, tending the pupae, "policing" the quarters, etc., and all in what seems to us (Immerian darkness! What is the quality of the light that penetrates these cavernous domains and permits such work? Or is it controlled by the sense of touch alone? What must be the nature of a vital organism

adapted to such a Plutonian career, and equally and instantly to the free life in the sunny open wherein is wrought the foraging for communal supplies? For many and careful observations have never detected the slightest "shock" or change of manner in ants of any species in passing from the interior of their nests into the brightest sunshine.

Moreover the nest was located twenty-four feet above the ground, and all food and drink had to be brought thereto through the mill. This elevation and resulting vertical transportation are characteristic in forest nests. That ants are ardently fond of water one may readily satisfy himself by experiment; but no way of approach to the mill-race was discovered except down the foundation logs; and no regular lines of travel to and from the stream were observed.

Outward evils are designed to school our passions and to rouse our faculties and virtues into intense action. Sometimes they seem even to create new powers. Self-culture never goes on so fast as when embarrassed circumstances, the opposition of men, unexpected changes of the times, or other forms of suffering, instead of disheartening, throw us on our inward resources, turn us for strength to God, clear up to us the great purpose of life, and inspire calm resolution.

A Chat About Inventions and Patents

BY CHARLES A. SCOTT IN AMERICAN INVENTOR.

There are many ideas among and thousands of devices which the world would welcome. However, and with good reason, the man who can make them profitable. In the following article several of these inventions are referred to and hints are given as to the proper method of patenting them.

DID you ever stand in the extreme bow of an ocean liner, facing the stern of the ship, and in looking at the water on the star-board and port sides, note the tons and tons of water through which the engines have to force the displacement in speeding the liner on her course. Did it then suggest itself to you the degree of speed these engines could force the boat if this displacement could be reduced say twenty-five or fifty per cent? What a fortune awaits the man who can accomplish this!

Have you ever breakfasted at a cafe and noted an attendant refilling for the day the estup bottles, (bearing, perhaps the label of a well-known firm) with a brand that might be almost anyone's. Did it ever suggest itself to you what the maker of the original contents of the bottle would give to make the re-filling impossible? A modest fortune awaits the man who can produce a bottle, that is absolutely non-refillable, which has no rubber parts in the neck, and can be made at no greater cost than the ordinary bottle. Did you ever think of what it would mean to the commercial world if some man re-claims the lost art of tempering copper? What opulence awaits him who gives us a cheap substitute for rubber, that is a "substitute" in every sense. We could go on in this way to the filling of this magazine, and yet we sometimes hear that the day of "wealth from invention" is passed.

It is perhaps true, that it remains for but a few to produce really "great" inventions, and a still smaller number to realize wealth from them, but this is not because the possibilities for improvement are not there, or that the reward is not awaiting the producer of results called a "great" invention. While few of us can become "great" inventors, many of us can become "little" inventors, if that is the word to use. I wonder if anyone ever reached life's centre mile post without seeing at some turn of the road, wherein or whereby a given result or effort could be produced in a more simple or less expensive way than it was—without having his mind suggest the construction of some little thing, that would be useful and called a "good" thing, or without having it suggest itself to him how some small improvement could be made in some mechanical device, or little contrivance that would add commercial value to it * * * and then perhaps your attention was called to something else, and you forgot all about it. Thereby your pocket has lost or missed some dollars, and the world, something that would help to speed it on its way more happily or easily. Think of the millions of ideas that would have been of immense commercial value, or even of some commercial value, that have been lost or never produced, because we thought of them, forgot them, or didn't have time to de-

velop them, or didn't think it would pay.

An invention to be successful in a financial way, does not mean necessarily, that it must bring us many thousands of dollars. I think it is because we so often have this idea in mind, thinking of the Edisons, Westinghouses, Teslas and McCormicks that we do pass over the often really good suggestions that come to us, which, if patented and offered to the public would bring us at least a few hundred dollars. Many an excellent little tool, or improvement on one, or a kitchen or household device has been thought out, at little expense of time or brain matter, and at the expense of less than one hundred dollars for a patent, has yielded the inventor several hundred dollars in an out-right sale, or perhaps a thousand or two. Perhaps he is receiving regularly, a little royalty from its sale. This certainly pays. It does not place our names among those which will be handed down to posterity as "Inventors," but it does help our material well-being just so much. Do not pass too lightly over these little suggestions that come to you, wherein or whereby something can be improved, or a better device may be created than something now used for a given purpose, for it may bring you a very nice little income. The demand for good things that are really useful and not so expensive as to make them impossible as a commercial success, is very large, and I think that if you, my reader, were in a position to know just what this demand is it would greatly surprise you. It is far greater than the supply. That is, the supply of really good and practical devices.

Many inventors absolutely waste money in securing patents on devices that have no commercial value whatever, but the fact of their possessing some merit, because they will perhaps do certain things, causes the inventor to believe them of great value, and without looking over the ground he rushes for a patent. Unfortunately for such, this government will grant a patent on anything that has not been covered before by a patent, no matter whether it has such merit as to make it commercially valuable or not. If an idea suggests itself to you for some little device or a large one that YOU believe would prove of value in the work-a-day world, don't think about it until you forget it, but rather make careful inquiry in the field to which it pertains, and ascertain first, what there is now on the market that accomplishes, or tries to, the same results. Find out if your device can be made cheaper, and is equally efficient or more so. If it is, apply for a patent on it, if consultation with a reputable patent attorney assures you that it is sufficiently different in construction to keep you clear of infringements. You are then bound to reap financial success from it, unless you expect the impossible. On the other hand, if you flound upon careful investigation that there are other things, although of somewhat different construction, but just as cheap, that do the same work as your device, and particularly if there are many of them, don't apply for a patent. So many people are wasting money in securing patents on rail-joints, wrenches, nut-locks, fence posts, when the patent world is flooded with patents on such things, and some pretty good ones too, but

because of the great number of them, the commercial value of any of them is small, aside from the three or four that may be on the market.

After you have secured the patent on your device, do not demand or expect too much for it, unless it is one of the truly "great" inventions of the day, and it is very hard to tell whether a given invention will prove "great" or not, unless it is something that will revolutionize matters in the field. Thousands and thousands of patent owners have never realized a cent from their inventions for the reason that they asked too much for the patents. If you have a household article, it is never wise to figure up how many homes there are in the land and that one can be used in each home, and that the profit on each article being several cents, which soon runs into millions of dollars, that there're the one who buys your patent must pay you several hundreds of thousands, or a million or two for it. This seems absurd to the thinking man, but the percentage of inventors that take such a stand, and keep it until the best years of their patent's life are gone, is surprisingly large. I have heard of an old German cobbler's shop in which was hung the motto: "Put yourself in every man's shoes." It is a good saying to keep in mind in all life's problems, but particularly when you are trying to sell a patent to the other fellow.

Let us say, for sake of argument, that your device is one that will be welcomed in every home. Did it ever occur to you what it is going

to cost the man or firm you want to sell your patent to, to make every home acquainted with the fact of the existence of this device? Thousands and thousands of dollars. Do you stop to think what it is going to cost him to equip himself to make the device, not only for machines, etc., but for material. Let us also grant that the prospective buyer would be very "willing" to pay your asked price of many thousands of dollars, how very, very few would be able to do so, and then, in addition make the very much larger investment perhaps, in introducing the device. It is because the inventor has been so often blinded to the other man's interests, that so many excellent inventions are locked up in many homes of the country. Those who would buy them could not pay what the owner asked, and the owner would not sell because he could not get his asked price. A price that was impossible. It is never an easy matter to say what is a fair and just price for any patent in offering it for sale. There is such a large element of chance in offering any new thing to the public, but it always seems wise to accept the first offer that will give you a fair profit over and above your actual expense in perfecting and patenting the invention. You may in this way secure but a few hundred dollars, whereas you would like several thousand, but the purchaser cannot buy your brain, and you can go to work and get up something else. Several things like this in a life time amount to something nice financially.

Mr. Dooley on the Food We Eat

BY F. P. DUNNE IN COLLIER'S WEEKLY.

The monstrous Dooley continues at some length on the most contentious point of both the free-bird and the pig-herd. He writes an amazing column there is said to be written by Hagar on behalf of the pig-herd. An article in the Mirror of "The Jungle." Mr. Dooley is to be recommended.

"WHAT have ye under ye'r arm there?" demanded Mr. Dooley.

"I was takin' home a ham," said Mr. Hennesey.

"Clear out iv here with it," cried Mr. Dooley. "Take that thing outside—an' don't lave it where th' dog might get hold iv it. Th' idee iv ye'r bringin' it in here, Glory be, it makes me faint to think iv it. I'm afraid I'll have to go an' lay down."

"What ails ye?" asked Mr. Hennesey.

"What ails me?" said Mr. Dooley.

"Haven't ye r-read about th' investigation iv th' Stock Yards? It's a good thing f'r ye ye haven't. If ye knew what that hum-oh, th' horrid wurrd—was made iv ye'd go down to Rahba Hirsch an' be baptized f'r a Jew. Ye may think 'tis th' innocent little last left leg of a porker ye're intrajoocein' into ye'er innocent fam'ly, but I tell ye, me boy, th' pig that that ham was cut fr'm has as many legs to-day as iver he had. Why did ye waste ye'er good money on it? Why didn't ye get th' fam'ly into th' dining-room, shut th' windows, an' turn on th' gas? I'll be resdin' in th' pa-pager to-morrall that wan Himmissey took an overdose iv Armour's Unblemished Ham with suicidal intaint an' died in great agony. Take it away! It's libbe to blow up at anny mayiv scutherin' death an' destruction in its train.

"Dear, oh dear, I haven't been able to ate anything more nourishin' thin a cucumber in a week. I'm grajually fadin' fr'm life. A little while ago mo wan ed square away at a hoelstienk with better grace thin meself. To-day th' wurrd reshtant makes me green in th' face. How did it all come about? A young fellow wrote a book. Th' divil take him f'r writin' it. Hogan says it's a grand book. It's wan iv th' greatest books he iver r-read. It almost made him commit suicide. Th' hayro is a Lithuanian, or as ye might say, Polackey, who left th' bar'b'rous land iv his blith an' come to this home iv opporunnity where ivery man is th' equal iv ivery other man before th' law if he isn't careful. Our hayro got a fancy job poling food products out iv a catch basin, an' was promoted to seapin' pure leaf lard off th' shore iv th' gine factory. But th' himints iv our glorious civilization were wasted on this poor peasant. Instead iv bein' thankful f'r what he got, an' lookin' forward to a day when his opporunnity wud arrive an', he merely stubbin' his toe, he might become rich an' famous as a pop'lar soap, he grew cross an' unruly, bit his boss, an' was sent to jail. But it all turned out well in th' end. Th' villain fell into a hard tank an' was not seen again untill he bar'ned up at a fash'nable reshtant in New York. Our hayro got out iv jail an' was rewarded with a pleasant position as a portier iv an aryezhist

hotel, an' all ended merry as a fan'-ral bell.

"Ye'll see be this that 'tis a sweetly sentimental little volume to be r-read durin' Lent. It's had a grand success, an' I'm glad iv it. I see he th' publishers' announcement, that 'tis th' gr-reatest lithy hog-killin' in a perved iv gin'ral lithy culture. If ye want to rayjooce ye'er butcher's bills, buy 'Th' Jungle.' It shud be taken between meals, an' is especially ricommended to maiden ladies contimplatin' their first ocean voyage.

"Well, sir, it got th' Priskidin' in a turbid stew. Oh, Lord, why did I say that? Think iv—but I musn't go on. Anyhow, Tiddy was boyin' with a light breakfast an' idly turnin' over th' pages iv th' new book with both hands. Suddenly he rose fr'm th' table, an' cryin': 'I'm pestered,' began throwin' sausage-into iv th' window. Th' ninth wan sturck Sinitor Biv'ridge on th' head an' made him a blood. It bounced off, exploded, an' blew a leg off a secret service agent, an' th' scathin' fragments destroyed a handsome row iv o'k'-trees. Sinitor Biv'ridge rushed in, thinkin' that th' Priskidin' was bein' assassinated by his devoted followers in th' Sinit, an' discovered Yiddy engaged in a hand-to-hand conflict with a potted ham. Th' Sinitor fr'm Injany, with a few well-directed wurrds, put out th' fuse an' rendered th' missile harmless. Since thin th' Priskidin' like th' rest iv us, has become a viggitygram, an' th' diel has so changed his disposition that he is writin' a book called 'Supper in Silence,' dydictated to Sinitor Aldrich. But before doin' anything else, he selected an expert

couity fr'm a neighborin' university settlemint to prepare a thorough, unbiased rayport that day on th' situation an' make sure it was no better thin th' book said. Well, what th' experts discovered I won't tell ye. Suffice it to say, that when th' rayport come in Congress decidid to abolish all th' days iv th' week except Friday.

"I have r-read th' rayport, an' now when I'm asked to pass th' earned beef, I pass. Oh, dear, th' things I've consumed in days past. What is lard? Lard is anything that isn't good enough f'r an axle. What is potted ham? It is made in axel parts iv plaster iv Paris, sawdust, rope, an' incantious laborer. To what kingdom does canned chicken belong? It is a mineral. How is soup—Get me th' fan, Himmissey.

"Thank ye, I'm hether now. Well, sir, th' porkers ar-re gettin' r-ready to protect themselves again 'Th' Jungle.' It's on'y lately that these here cinn'rous souls have give much attin'ion to lithrdooor. Th' on'y pens they felt an inthrest in was those that restrainted th' heetic cow. If they had a bilid man in th' Health Department, a few competent friends on th' Foderal bench, an' Farmer Bill Lorimer to protect th' cattle inthrests iv th' Gr-reest West, they cared not who made th' novels iv our country. But Hogan says they'll have to add a novel forthity to their plant, an' in a few months ye'll be able to buy wan iv Nels Morris' pop'lar series warranted to be fr'm rare life, like th' pressed earned beef.

"Hogan has wrote a sample f'r thim: "'Dear!' Ivan Ivanovich was seated in th' conservatory an' breakfast room provided he Sch-

watzbild an' Zulshberger f'r all their employees. It was a pleasant scene that stretched beneath th' broad windows iv his cozy villa. Th' air was redolent with an' aroma iv th' spring tendherin', an' beneath th' smoke iv th' May morning' th' stately expause iv Packintown appeared more lovely than ever before. On th' lawn a fountain played hime incessantly an' melodiously on th' pickled pigs'-feet. A faint odor as iv peach blossoms come fr'm th' eschalmir plant where kims that have perished fr'm joy in th' long journey fr'm th' plains are transformed into th' delicacies that show how an American sayer can die. Thousands iv battlefields are silences with th' labels iv this justly popular time an' a millyon bayroes have risen fr'm their vields an' gone composedly to their doom. But to return to our story. Th' scene, we say, was more beautiful thin wurmils can describe. Beyond th' hedge a physician was thyrin' to make a cow show her tongue while his assistant wint over th' cruther with a stethoscope. Th' air was filled with th' joyous shouts iv drivers iv wagons heavily laden with ol' boots an' hats, arsenic, borie acid, bone-dust, strickuine, sawdust, an' th' other ingredients iv th' most nourishing food f'r a sturdy people. It was a scene f'r th' eye to dote upon, but it brought no happiness to Ivan Ivanovitch. Yesterday had been pay-day at th' yards an' little remained iv th' fourteen thousand dollars that had been his portion. There was a soup can iv anger in his voice as he laid down a copy iv th' "Ladies' Home Journal" an' said: "Dear!" Th' haughty beauty rela-

ed her head an' laid aside th' spoon with which she had been scrappin' th' life-giving prosodie acid fr'm th' Deer Island sausage. "Dear," said Ivanovitch, "if ye use so much iv th' comp'ny's peroxide on ye'er hair there will be none left f'r th' canned turkey." Before she end lift th' butterine dish, a cheery voice was heard at th' dure, an' J. Ogden Cudaly bounded in. Ivanovitch flashed darkly, an' him, as if a sudden determination had struck him, threw on his overhauls, an' wint out to shampoo th' pigs. [Th' continuation iv this thrillin' story will be found in th' nex' issue iv "Leaf Land." F'r sale at all dely. cateseen stores.]

"But let's stop thinkin' about it. It's a good thing not to think long about anything—ye'erself, ye'er food, or ye'er hereafter. Th' story iv th' nourishment we take is on'y half written in 'Th' Jungle.' If ye followed it fr'm th' cradle to th' grave, as ye might say—fr'm th' day Armour kicked it into a wheelbarrow, through various encounters, th' people it met, with their pictures while at wurruk, until it landed in th' excre iv th' strange lady in th' kitchen—ye'd have a romance that would make th' butcher hand down his sign. No, sir, I'm goin' to thry to fight it. If th' millyonaire has a grudge again he'll land me somehow. If he can't do me with sugar iv lead, he'll run me down with a thrrolley-car or smash me up in a railroad accident. I'll shut me eyes an' take me chance. Come into th' back room, cut me a slice iv th' ham, an' send f'r th' priest."

"They ought to make him ate

their own meat," said Mr. Hennessy "I suggested that," said Mr. Dooley, "but Hogan says they'd fall

back on th' Constitution. He says th' Constitution f'ruids eroul an' unusual punishments."

Harnessing the Horses of the Sun

BY HENRY'S PRITCHETT IN WINDSOR MAGAZINE

The great work of the future will be the discovery of more economic means of harnessing the power of the sun. The sun is the sole source of power on the earth. To day this power is used exclusively in so-called industries. To-morrow who knows what marvellous results will be accomplished.

WHEN we study the tools which belong to the past, we find that, two thousand years ago or more, hand tools had been brought to a high state of perfection. We have to-day no workers in marble more skilled than those of ancient Greece, no workers in metal more artistic than those of India, no weavers more cunning than those of Phoenicia.

All these tools and machines were what the Japanese call one-man-power—they were hand tools. This age of hand tools continued until practically the beginning of the last century, when men began to invent machines to take the place of hand labor; and the purpose in these machines was not so much to do more accurate work as more economical work, because the machine could take the place of several men.

Curiously enough, this effort brought men face to face with a new problem, the solution of which, though not yet complete, has so far progressed as to change the whole machinery by which the world's work is done and to bring in an entirely different set of tools. This problem was the question of power, for as soon as machines large enough to do the work of a number of men came into use, it became necessary

to have more power than that of human muscle to work them; and that has been the problem of the last hundred years—to furnish this power and to store it for use as it may be needed.

Now, to us who live on this globe, which we call the earth, there is really only one source of power, and that is the sun. Slant out the sun's rays, and, except for the rise and fall of the tide, all source of power on the earth's surface would be cut off.

There is a Latin inscription which is often carved on sundials, *Sine Sole Sileo*—Without the Sun I am Silent. Such an inscription might well be graven on the earth itself, for without the sun this fair planet of ours would be silent, lifeless, powerless.

We seldom stop to think how prodigal a supply of power the sun pours out upon us, nor what astonishing tasks this is set to under our very eyes. We are lost in wonder at the exhibition of human power shown in the lifting of a stone weighing a few tons to a place in the pyramids, but the sun on a hot summer day will pick up a hundred thousand tons of water from a lake and drop it on some distant mountain-top.

Men began to harness this sun power indirectly a very long time ago in the simple waterwheels which

served the old-fashioned mills, for the energy of the running water is solar energy indirectly applied, and often inconvenient for use. A great step in harnessing the sun's power was made when the steam engine was invented. Since that day man's inventions have gone forward with a rapidity unknown in all the ages before, until to-day the whole character of the tools which he uses has been transformed.

Hand tools still remain, as they always will remain, but they take second place in the world's work; the tools of to-day and the tools of the future are the great machines which can most skilfully and most economically harness the sun's energy to the world's work. The man who thus harnesses the sun is no longer the worker with hand tools, but he is the engineer, the workman of the future, and his machines are the tools with which the world's greatest work must be done.

But while this may be accepted with certainty, it is not so easy to predict the method the engineer will use to harness this sun power. For, although the engineer of to-day realises, as the workman of a century ago did not, that the sun is his sole source of power, all the machines which are employed are most wasteful in their use of this power. And what is still more curious, the engineer still takes his power second-hand, instead of using it directly as it reaches us in the sun's rays.

When the sun is nearly overhead, he delivers power at the surface of the earth at the rate of more than two horse-power for each square yard of surface. Even after deducting the loss occasioned by the absorption of the earth's atmosphere, it is still

true that each square yard receives when the sun is shining the equivalent of one-horse power working continuously. This means that there is delivered on each square yard an energy able to lift a weight of thirty-three thousand pounds one foot in one minute, and this power is continuous.

Almost all this energy at the present time goes to waste, or, as the scientific men say, is "dissipated." A little of it is used in warming the air, evaporating the water, and in other ways, but the greater part is radiated into space.

Think what could be done with this power if the engineer could turn it to man's use. What power goes to waste in your back-yard? The sun delivers on Hampstead Heath, free of charge, four times enough energy to warm and light London and supply all its manufacturing, street railways, and other consumers of mechanical power. Why did not some engineer suggest the use of it when the coal strike made the ordinary means of warmth and light so expensive?

On the broad, sunlit plains of Arizona, the sun delivers an equivalent of mechanical energy which, expressed in horse-power, would seem almost infinite. A small part of it would suffice for the whole world's work. Why is it not set to doing this work?

This is the problem of to-morrow. The engineer has made great progress in its solution. He has enormously improved the means by which indirect sun energy is used; he transforms heat energy into mechanical energy, and this, again, into electric energy; he has even devised a solar engine which will take up the energy as the sun delivers it and convert that energy—wastefully, to be sure—into

a form suitable for use; but the problem of storing this power and applying it when and where man may need it—that problem is the problem of the future, and the machines which will do this—for it will be done—are the great tools of humanity by which men are to work their way to a higher step of safety and of comfort and of enjoyment.

This does not mean that the skill of the individual worker will ever cease to be valued. The time can never come when the skilled hand and the fitting tool will not be eagerly sought by the world. But it does mean that the great epoch-making tools of man are no longer hand tools; it means that he who leads in the world's work to-day must be able to understand the forces of Nature so as to harness them to the world's service. The man who can do this is the engineer, and the boy who is ambitious to win a place among those who are to lead in these great world problems will fit himself for the work of the engineer.

The old Greeks, who loved to enshrine in poetic legends all the processes of Nature, described the daily course of the sun in a charming tale, in which the sun was represented as a strong and beautiful man, with wavy locks and a crown of rays, driving a splendid chariot. Starting in the morning from the ocean in the east among the Ethiopians, and driv-

ing across the heavens in his glowing car, he descended in the evening into the western sea. At night, while asleep, he was borne along the northern edge of the earth in a golden boat to his starting place in the east. The story goes that on one occasion young Phaeton, a son of the Sun, persuaded his father to let him drive the chariot across the sky; but the adventurous youth lost control of the horses, and, driving too near the earth, scorched it; mountains were set on fire, rivers and seas dried up, Libya became a desert, and the Ethiopians were blackened in the heat.

In our day, a modern champion has arisen who comes boldly forward to harness the horses of the sun. He has not grasped the reins fully, but it is plain that his is no uncertain touch. No mountains will be set on fire, and no rivers dried up by his driving; but under his strong hand the horses of the sun will, little by little, bow their proud necks to useful work; rivers will be harnessed, continents cut in two, deserts made to bloom, light and warmth will be sent to those who sit in darkness. And, streaming into all parts of the earth, the radiant power of the sun will minister to the service and to the joy of man. This modern Phaeton is the engineer, and already the reins are in his hands.

The strength of a man is in proportion to the feelings which he cultivates and subdues, and not those which subdue him—Meyer.

The Force of Cricket

BY E. H. D. SEWELL IN CHAMBERS JOURNAL.

Continued popularity is accorded to cricket in England and the game is being taken up busily in various parts of the world. The force of a new-ton tradition, both home and international, is shown by a desire to what the game has done to promote good feeling.

FASHION is, as we know, sometimes a very tiresome master, particularly when one has to go to some big social function on a hot Summer day. Anything more unsuitable in the way of dress than the finishing touches represented by a high, stiffly starched collar and an unyielding silk hat does not come within the scope of our imagination. Fashion decrees that we shall use them, and, sheep-like, we obey. So, in cricket, it is becoming the fashion to say that the game is growing unpopular, that this and that alteration in its laws is imperative, and that it is not played in the spirit in which our respected and top-hatted forebears played it. This is all, I am convinced, due to fashion, which, dissatisfied with something—it is not quite sure what—complains of the laws because there is, apparently, little else to complain about. Stay! there is the drawn game. The game is becoming unpopular because of the incessant recurrence of the drawn game. So the reason for the frequent drawn game must be unearthed. And so it goes on, this fashionable grumble against a glorious game which attracts thousands of spectators, and of which the standard of play is rapidly improving in distant lands. There is really nothing whatever the matter with the game, but it is not good manners nowadays not to grumble at something.

For proof of the continued popularity of the game, we have only to remember that where Englishmen alone played it, now there are first-

class Australian, New Zealand, American, South African, Boer, West Indian, Parsee, Mohammedan, Hindu, Cingalese, and Dutch exponents of the game. In face of the fact that the growth of Rugby football in France resulted, last March, in the first France vs. England international match under Rugby rules, who dare say that during the next ten years France will not be included in the growing number of countries whose representative eleven do battle with the mother country in the special arena of test match cricket? There are good cricketers in Japan, but as yet the world has not heard of any unusual performance with willow or leather by John Chanaman, despite the augury of the pattern plate. During the past Winter South Africa has proved her right to play test cricket. The form of the West Indian team touring England this season will be closely analyzed, though it is probable that the class of test Indian cricket as a whole is not that of test matches—a class quite peculiar to itself. There are hundreds of first-class but not tens of test-match players in the world. A few years ago Parsee cricket was easily the best in India; now it has a rare struggle to overcome that of the Hindus, while the Mohammedans are daily improving, and are certainly a good third so far as native cricket is concerned.

Now, these facts, if they prove anything, do most conclusively prove that whatever the game register-books of English county grounds may show

the national game has not lost, but has really gained, in world-wide popularity. It is wrong to judge of the popularity of the game by the gate register, just as it is wrong to ascribe the alleged unpopularity to the series of drawn games. The latter are frequently productive of a very keen struggle between bowler and batsman which is most interesting to watch, and they should certainly not come in for the amount of condemnation they do. That is simply due to fashion and the sheep-like trait in the human character which causes the flock to follow the leader, especially if he has a big name in the world of cricket, who first gets up and says that so-and-so or such-and-such is wrong with the game.

This should not be so, seeing what a force cricket is in the life of the nation. With politics neither I nor the game has any concern, but I feel rather sure that much of the dissemination at St. Stephen's about South African affairs will, out in that country, be smoothed over by the effect of the M.C.C. tour during our past Winter. It is well for this reason that M.C.C. were well beaten in the test matches. Undoubtedly, cricket did much good as between England and Australia, and if more official recognition were taken of the game in India we should hear less of a possible recurrence of the grim days of 1857-58 than we do. Perhaps Lord Hawke, as Viceroy of India, would bring about a more satisfactory state of affairs. Those who were in India at the time know well the good done during Lord Harris' regime at Bombay, not a little of which was due to his lordship's judicious use of his ability at the national game. It was said of Sir Charles Swettenham that when he was Governor of the Straits Settlements he would only have

cricketers on his staff, and that, moreover, he is said to have expressed himself that no man was any use as a public servant unless he was also a good cricketer. Which reminds one of the good old story of the vicar who advertised for a curate, 'a fast bowler with a good break from the off preferred.' Let us hope he got him, for I know of no postmaster at which ability is more likely to be of use to an earnest clergyman than that of cricket. An all too brief association with the Rev. F. Hay Gilliam, the keenest clerical cricketer I ever saw, conclusively proved that to the writer.

The force of cricket as a national asset as one not to be tampered with, as incessant outcries about its unpopularity and the unavailability of its laws undoubtedly do tamper with it. Small attendances are often largely due to causes outside the game altogether. Has the much-talked-of depression in trade nothing to do with it? Do the increased and increasing facilities routing the hard-worked man to spend his spare money on cheap trips to the seaside tend to send more people through the turnstiles? Is the improved and improving supply of cricket news in the press, now that more and more practical and good writers on the game are turning their attention to journalism, not partly responsible for the fewer clerks of those recording angels at the gates? I think so. The money is going out of the coffers of the county clubs by sixpences into the pockets of the newspaper proprietors by pence. The man who had to find team, tram, and admission to the ground money, plus lunch and drinks—say, five or six shillings—to see the three days' play of a big match, now saves his five shillings, earns money instead of spending it

during those three days, and contents himself by spending three-pence on his favorite paper; so he is four and ninepence, plus three days' work, in hand on the match. Undoubtedly the number of men who read their cricket is increasing. The first things looked at when the evening paper is bought are the cricket results, and it is a fact that by publishing the daily one o'clock scores in London one evening paper averages twenty thousand copies per diem. I doubt not that the telephone system has had its effect, however slight, on the attendances at some grounds. Other grounds wisely ignore the irritating instrument.

One word more, for the force of

cricket sometimes affects the umpire, as, for example, when a valiant batsman possessed of rather a terrific style, commenced his innings with mighty strokes that promised badly for the pretty man in white at square-leg. Fourth ball came a resounding appeal for stumped, which was immediately answered against the batsman.

"Why, look at my foot. I never moved," quoth the hefty striker. "Why am I out?"

"Out," laconically replied the umpire, unmoved. "I don't like yer style."

Was not that decision due to the force of cricket?

Smart Successes

If there is one tendency of the day which more than any other is unhealthy and undesirable, it is the tendency to deify mere "smartness" unaccompanied by a sense of moral accountability. We shall never make our country what it should be until as a people we thoroughly understand and put in practice the doctrine that success is abhorrent if attained by the sacrifice of the fundamental principles of morality. The successful man, whether in business or in politics, who has risen by conscienceless swindling of his neighbors, by deceit and chicanery, by unscrupulous boldness and unscrupulous cunning, stands towards society as a dangerous wild beast. — Theodore Roosevelt.

Power, the Product of Confidence

BY ELLA WHEELER WILCOX IN WORKER'S MAGAZINE

This is an excellent sermon for young people. It teaches the importance of relying on self in the shape of this life work of course, a fine request for the content and advice of able and wise people. It also tells how the need for justice on the side with a healthy and contented vision and not interfering vision and material things.

THE first thing for a human being to realize is the fact that we are, each and all of us, threefold in our organization — physical, mental, and spiritual. No matter how liberal or broad our education may be, or how far from orthodox our belief, we must be conscious that some force greater than the brain of man conceived and executed this wonderful scheme of the universe.

Whatever this force was, and is, we are a part of it, and from it we can obtain wonderful power and strength if we hold ourselves receptive to its influences. However occupied a young man or woman may be, each, if reared under civilized conditions, finds time for a daily bath. All feel it a necessity for the health of the body. Just as necessary for the health of the mind is what I would term a spiritual bath—a few minutes of time given each day to relaxation and calm meditation, an unobscuring of the mind, so to speak, of all material cares and ambitions, a breathing in of spiritual force—and an immersion of the whole being in the electric currents which flow from space about us.

He or she who desires to obtain personal power of the highest and most enduring nature must take these few moments at least, daily, believing that the best and purest strength from the source of all power is being bestowed.

After the routine of the day is entered upon a careful watch upon the emotions and desires, to see that they

do not encroach upon the rights of others, is another step toward the goal. The power which develops into tyranny and oppression is never a safe power to cultivate. It is sure to resolve itself eventually into a boom-crang and to destroy the usefulness of the mind which seeks it.

A man who pursues what he believes to be merely his own personal good has a lonely and hard path before him. A man who seeks the universal good of all humanity has the unconscious assistance of the whole universe. The fact may not be patent to him at the outset, but it will manifest itself as he proceeds. He who wastes time and vitality in feelings of hatred, revenge, and retaliation never can attain to power. Nothing is more destructive than hatred, it vitiates all the constructive forces of the mind. No more foolish and paradoxical phrase was ever formed than one we often hear uttered by the unthinking: "I am strong in my loves and my hates." He who loves greatly cannot hate any more than the sunlight can freeze one being while it warms another. There is a selfish passion, often misnamed love, which exists in the same heart with hate. But it is not love. Love is the greatest of all means for developing personal power. Would you have your influence felt by all whom you approach? Then cultivate a sympathy for all created things and look for the lovable quality in each human being. It exists—search, and you shall find.

Avoid dwelling upon the disagreeable and unpleasant traits of humanity or the gloomy or unfortunate phases of human existence. All such things are detrimental to the development of your best powers. They are material and lead to inertia of the mental faculties. When you are compelled to encounter vice and misfortune, give them pity and sympathy, and so what you can to aid and uplift, but do not let your mind dwell dependently upon them. As the book says: "Whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report, if there be any virtue, if there be any praise, think of these." This is one of the sweetest methods of developing personal power for thoughts are magnets and attract their own kind.

I hold it true that thoughts are things
Endowed with being, breath and wings,
And that we send them forth to fill
The world with good results or ill.

However unpoised you may be, picture yourself strong and viable, however poor, think of yourself as opulent, however lonely, imagine yourself surrounded by loving friends, and as you think, so shall you be. All such thoughts develop the power to bring desired results.

Prof. Elmer Gates, of Washington, speaking of his experiments at the Smithsonian Institution, says:

"I have discovered that sad and unpleasant feelings create harmful chemical products in the body, which are physically nutritious. Good, pleasant and cheerful thoughts create products which are physically beneficial. The

products may be detected by chemical analysis in the perspiration and secretions of the individual. For each bad emotion there is a corresponding chemical change in the tissues of the body, which is depressing and poisonous, while every good emotion makes a like promoting change. Every thought which goes into the mind is registered in the brain by a change in its cells. The change is a physical one, and more or less permanent."

Remember this, you who seek to develop power of body and mind. When you set forth in the world to carve out a career, do not be forever consulting your friends and leaning on them for advice about your course of action. There are great issues in life, vital turning points, where most of us feel the need of counsel, but such occasions do not prevent themselves every day. In the smaller matters pertaining to the conduct of business, learn to decide for yourself. Of course I am addressing the noble-minded and ambitious, not the idle and vicious. Cultivate conscience and self-respect, animation and ambition to be and to do your best. Then go ahead on your own basis and in your own manner.

If you form a habit of continually consulting other minds for guidance you weaken your own judgment. If you depend upon yourself and appeal only to the highest powers of the universe for strength you fortify the best qualities within you and educate your own nature for self-government. Not only avoid seeking advice but avoid taking too much of it. It will be impossible for you to follow all the suggestions your friends and acquaintances offer. Nothing is easier to give than advice. No two brains are constructed in exactly the same manner, and no two minds regard life from exactly the same standpoint.

One person tells a youth to sacrifice everything for an education, to go through college at any cost of time, labor, and pleasure. Another advises him to be satisfied with a common school education and to turn his attention to business early. One urges you to read widely, to avoid society, and to have no intimate friends but books. Another says seek the companionship of people, study mankind, make yourself popular, and achieve success through influence. If you obey the first, a dozen friends differ in the books they suggest for your training; if you yield to the latter, as many varying counsels are given regarding the kind of people whose acquaintance you should try to cultivate.

It is sheer madness to attempt to follow all the counsel of all our best friends. It would require twenty lives. We must decide things for ourselves. "Seek first the kingdom of heaven," which means seek the highest impulses of your own nature, the God within you, and the power to decide wisely shall be given you.

Once having decided, steel yourself to criticism. Whatever course you choose, some of your friends will decry and denounce your decision. Content yourself with the thought that, while they are your good friends, and mean well, they cannot live your life for you, and therefore you must live it for yourself, and in your own way. Like a locomotive, you must follow your own headlight.

There is nothing which more strongly aids the development of our pow-

ers than standing firm and unwavering through a storm of criticism, when we know we have chosen the right pathway, and that our motive is a worthy one, however questionable the course may seem to observers. It is impossible to pass through such an experience without being suffering until we rise to heights of spiritual serenity, which few of us attain in youth, but suffering is another source of development.

The best powers of mind and spirit cannot be attained if we neglect or misuse the body. The body is the basket in which the spirit and the mind are kept through one sphere of life, and it should be made worthy of them. Every organ should be exercised, every normal appetite reasonably fed, if we expect to reach the best we are capable of being and doing. To be wholesome and attractive to the beauty loving eye of the world is a commendable desire, and one which is consistent with the higher ideals of life. A subtle power comes with the consciousness of an attractive personality clothed in becoming and tasteful garments. For one who seeks to be his best self, suitable dressing for the body is as necessary as cleanliness.

Never should the truth be lost sight of that it is the spirit within which makes the real power of a man, and only in recognizing this fact and in constantly asserting it can the highest development of personal power be attained, and the true life accomplished.

Some Secrets of a Dime Novel Factory

BY THE AUTHOR OF "SLICK PARKER."

Each of the scenes among the youth of the land must be attributed to the dime novel. The fact is capable of the brain's proof. It is interesting to know how these "thrillers" are produced, and in the following article is referred "factory-made" tales of misadventure and romance shown.

IN New York there are half a dozen dime novel factories, in London there is an equal number. Much of the time of these publishers is occupied in cutting the titles off their rivals' productions and pasting new ones on after a few names and situations have been changed. After a certain number of years, youth having outgrown itself—and a new reading generation arisen—the old novels are picked up, refreshed, and reproduced with new illustrations. It would be utterly impossible, of course, to turn out original matter year after year at the rate of one million copies (representing ten to twenty libraries) per factory per week.

It is necessary, however, to invent every month or two a new series of thrillers, which, combining the three best productions of a rival factory, perhaps, may pass among boys as something comparatively novel. As the manager of one of the country's biggest nickel-horror factories once said to me:

"The public can be fooled most of the time, but the small boy 'no' Not all of the time."

This brings me to the men who direct this system of mutual piracy and co-operative humbug. Before I became a dime novel writer, I had conceived such men as something long-haired, unshaven, and breathing of ambrosia. To my surprise I found that the directors of the dime novel industry were shrewd business men, who regarded their calling with a

gravity that provoked the mirth of those who had come in from the fresh air.

The novice, however, soon falls under the spell—that mystic influence which sends boys to the Rockies aimed to the teeth and gravely cocking their pistols at every turn of the road. Author, publisher, and boy reader—all live in a world that is a distorted creation.

Here is an example of this most ludicrous gravity on the part of the publishers and writers of dime novels. We have heard too much about the boys. Two weeks after I had been hired as "the author of 'Slick Parker,' 'Old Wide Brim,' 'Damnable Dan,'" and other weekly productions I was called into conference with the manager of the thriller department and the head of the firm.

It was a solemn meeting. "Old Wide Brim" had fallen off in circulation. From 50,000 per week it had dropped to 16,000. "Slick Parker" was not too good, either. They both needed originality. The brains that had produced them for fifty-two weeks each year wanted oiling. In fact, a New Brain was needed. The old one, worn out, would be discarded. It was the proposed new victim of the factory mills.

"We'll take the two great detectives," said the head of the firm, gloomily, "and put them into one library for a bit. We'll bill the 'Wide Brim' library, but we can't kill the hero right away. Put Slick Parker and Old Wide Brim on the same case,

and—and—well, what have you to suggest?"

The manager of the thriller department and the New Brain looked at one another dimly. Then the wheels began to work. Yes—that was the idea! Splendid! We would have the title made right away! "Slick Parker's Ally, or, Two Great Sleuths on the Same Case." Good! And for a front illustration. Ha! (It was the perspiring manager who ejaculated.)

"They get on the same trail, not knowing about each other—meet at climax in dark room—possibly trap-door or sewer. They grapple—fight to the death. Dead-lock. Then a light or a familiar ejaculation. 'You here—Slick Parker!' 'Old Wide Brim, by all that's holy!'"

"Mmm, very good," said the head of the firm, thoughtfully. "But does it you think 'You here' is a little worked out? You must have the villains who trapped them enjoy the joke of this not knowing each other, and laugh when they hear the two great detectives fighting one another. Mmm! But you must be careful not to make fun of your heroes. They must win, you know—they must win."

"You—you might have the villains!" I ventured, "believe the detectives have killed each other. Then the villains go away, after which the detectives escape."

"The villains wouldn't do anything so careless unless they saw the corpses!" snapped the manager.

"Tut! tut!" said the head of the firm. "The young man is right. It is—ahem!—upon the small errors of life that the great events—ahem!—are based."

Something gave way in my throat. Next minute I was conscious of having gagged, and that I presented an

embarrassed face to two aggrieved ones.

"What's the matter?" asked the manager severely, while the head of the firm stared disapproval.

"It's—it's rather funny—in—in a way," I stammered.

"Yes," said the manager doubtfully, "it has a humorous side—if you look at it that way. But you must—you will learn to take it seriously."

"Of course—of course," murmured the man who had made millions out of the small boy. "You can get to work on the combined library. You have an order for three in advance. You can invent the other two titles and central ideas for illustration before you go. And please, Mr. Manager, write to Mr. Q a reprimand. I noticed in last week's issue of 'Praise Pete' that he made his Indians bite the dust. I have repeatedly told you that I object to Indians biting the dust. Let them fall with a scream, but I will NOT have them bite the dust!"

The men who write dime novels and nickel horrors are very often newspapermen. But the tanks change every month. Like soldiers on the battlefield, the writers succumb to various causes. Some refuse to be serious, some are too serious, some have not the requisite inventive ability, and some fall by the wayside. For this latter reason a verbal contract is often made with the author for three novels at once. This keeps him working steadily for two weeks (!) that he may get his money, otherwise, and not improbably, he may take a holiday after one novel is written and a check received.

There are a few veterans who survive the ordeal of continued production, but even they break down at intervals. Then a New Brain is intro-

duced and worked out, while the veteran lies fallow. When the New Brain is used up he is "suspended" for some triviality—such as a grammatical error! Then the veteran is sent for. He is given a check in part payment for three novels to be delivered before the balance shall be forthcoming. He works on for a time, then breaks down again, and either another New Brain is discovered or an old one has to be patched up.

There are exceptions to this rule, however. I personally know men who make a substantial income out of the business of writing dime novels, and one or two who, after years, do not show the strain which such work must entail. These, however, is the mechanical genius, which moves as regularly as a clock ticks and wears as long.

For each novel a writer is paid \$20. For each borrowing, stealing, or manipulation of another man's work half price is paid. When a "library's" circulation goes up—as often happens when a New Brain is captured—the writer may have his pay raised to \$50 per novel.

I know one remarkable veteran who is coaxed out of the Bowery in an emergency with the inducement of \$100 a novel. He is the only man who can turn out a certain brand of detective fiction and keep that "library's" circulation steady. His work never varies a degree from his own standard, with the result that he goes on like Tennyson's brook. He wrote these detective stories for our fathers; he may write them for our sons.

The writer, poorly paid as he is for each 20,000-word novel, has methods of his own for beating the faculty. Personally I confess that I never wrote more than 16,000 words to a novel, but my sentences and para-

graphs were broken in a way that defied count. I give an example here of the system which was employed by myself and others to beat the thirty-two pages of the nickel novel.

A notice, full of a clear conscience and a desire to give his employers a hookful, if nothing else, would record an event in this manner:

"We are pursued by Broncho Bill," Red Dave suddenly gasped.
"Broncho Bill!" hissed Shang Martin. "I'll get squar' with that man yet."

Still fleeing for their lives, they suddenly came upon a strange hut, through the door of which they unceremoniously burst. Inside a strange sight awaited them.

This, truly as it is, would break the heart of a veteran. What a shameful ignorance of the elasticity of words! What a disgraceful saving of valuable space! This is how the veteran would write the same thing:
"Curse!" gasped Red Dave suddenly.

"What is it?" Shang Martin asked quickly.

"We are pursued."
"What? Pursued?"
"Yes, curse the luck!"
"Who is it?"
"I know him."
"You do?"

"Yes, Broncho Bill!"
"Broncho Bill!" Shang Martin almost shrieked.

His face turned pale, even beneath the tanned skin.

"Ay, curse him!" hissed Red Dave, with mighty oath. "But I'll squar' him yet."

Suddenly there burst upon their view a low log cabin, built in an open glade, under a cliff covered with ferns and pines.

"What is that?" Shang asked quickly.

"A hut," answered Red Dave.

"Whose is it?"

"I do not know, but there is no time to lose."

"What shall we do?"

"We must go in. Broncho Bill is closing in on us. We must make a stand in you hut and fight till the last drop."

Without stopping to inquire if any one lived in the hut Red Dave and his companion burst open the door with the stocks of their rifles.

Red Dave stepped inside.

Suddenly he started back with a hoarse cry of horror.

"What is it?" asked Shang Martin.

Inside the hut a horrible sight awaited their gaze.

Now and then the manager of the head of the firm will send a letter of protest when the paragraphing and tautology are outrageous. And the wail of the letter is invariably:

"You do not take this business seriously enough. Show a little interest in what you are doing. You make your characters talk as no human beings ever did!"

All of which is probably correct. The head of the firm, by the way, sometimes gets what the underlings call a "purity streak." He will take reject half a dozen ordered novels, compelling the authors to write them over again or get no pay. On these rare occasions he is likely to issue an edict to this effect:

"To Mr. — (the manager):

"You will please instruct your young men that everything they write in our libraries must be highly probable. I desire that, if possible, the writers have their stories upon history. They might read some of our earlier numbers and Mr. — might study our publication 'Life of Apache Bill.' I feel that the youth of the country require a higher class of lit-

erature than you have been giving them.

"Tell K— I think his work is crude. I notice all his stories begin with somebody who 'MIGHT HAVE BEEN SEEN' walking, or riding, as the case may be. I do not like this. To say that a person MIGHT have been seen implies a doubt as to the veracity of the story. He must be more careful."

Here is a copy of a letter from a brother sufferer during a "purity streak":

"You needn't thank you're the only one who got it on the neck. He killed my first three novels of the new Blank and Blank Series, all because I called my hero 'Dashin' Yuman.' He wanted me to call him 'Fearless Phil.' Then he got sore and said the whole idea of the series was crude."

"Tell you what, old man, this will pass. He gets it every month. Put away the Slack Parkers he killed, and about two months from now change the titles, give him new picture ideas and sell the stories back to him. That's the only way to get them off."

But, after all, the joy comes of seeing one's children on the newsstands and one's self as "the author of 'Slack Parker'." And, too, there is the joy of seeing the messenger boy with his nose glued to the work of your tired brain. And, greatest of all joys, is to read in the newspapers how your latest novel brought about the robbery of a bank, the disappearance from home of numerous small boys, and the breaking of many paternal hearts. When one is disgusted there is an untold pleasure in being bitter.

Detective O'Connor, of the Adams street station, Brooklyn, told me a short time ago that much of his work lay in the handling of boys who had

become wayward through the reading of dime novels and nickel horrors. The records of Brooklyn police headquarters show that O'Connor made no less than a dozen arrests in four such cases within twenty-four hours.

In the first case a boy in Hudson street, who had been reading library trash, fancied he was in love with a little girl named Jennima. His father had an iron-bound box full of family heirlooms. The boy seized this box. He tucked it under his arm, sought out the girl, and besought her to "fly" with him to the west. The children were about to elope when O'Connor came on the scene.

Magistrate Douley, in trying this matter in the Children's Court, remarked upon the prevalence of dime novel cases. That morning O'Connor had been in court with three others. In one of them a boy who was leader of a gang of youthful "outlaws" had stolen \$300 and a gold watch from a safe. When the "boy chief" and his companions were arrested they were busy dividing the "swag" in a vacant lot in Atlantic avenue.

Another lad, who had been surprised in the act of burglary, had been summoned to "stop" when chased by the watchman. This happened near the Gowanus Canal. The boy ran to the pier, struck an attitude, and with a ridiculous sense of the gravity of his situation, shouted:

"Never!"

He jumped into the canal. When rescued from drowning and placed un-

der arrest, four nickel novels were found in his pockets.

A fourth boy arraigned on the same day had been arrested in a lady's boudoir in a fashionable apartment in Brooklyn. He had his pockets full of jewelry. Investigation brought out that his parents attributed his behavior to the literature which attracted him more than school books ever did.

The most remarkable feature about the production of nickel and dime thrillers of wild west, travel, and detective types, is that the men employed to write them are not required to know anything about the conditions they try to picture.

I, myself, am the author of over a dozen wild west novels, which purport to be authentic incidents in the life of a famous scout. I have never met this scout in my life, I never read his life story; I am not an American, and I have never been west of Walton-on-the-Hill. I also wrote numerous detective stories, treating of the "crook" life in New York, long before I knew where 346 Mulberry street was. With the sea I am slightly familiar, but I know a dozen dime novelists who have made pen pictures for the youthful mind of foreign countries which they knew little about, never saw, and never expected to visit.

Hence the small boy's distorted conception of sailor life, cowboy sport, foreign lands, his own country, and true manhood.

The Economic Revolution in Japan

BY CHARLES EDWARD RUSSELL IN EVERYBODY'S MAGAZINE

Instead of treats, we find in Japan Government monopolies. Already the Government has a monopoly of tobacco, of salt, and of matches. It is currently planning for other monopolies. It is steadily driving out the foreigner, not only from Japan itself, but from China, Korea and Manchuria.

FOR many years after Commodore Perry's historical visit it was the custom of western nations to regard Japan as peopled chiefly by amusing idiots that existed to supply us with curios and consume our surplus products. Presently we discovered that these amusing people were duplicating our products instead of consuming them. This jolted the western complacency until someone formulated the theory that the Japanese were merely "a nation of imitators." With joy we laid hold of this emollient; with fond persistent faith we still cling to it. Even when we see Japan with new methods and a new efficiency crushing the fleets and armies of one of the greatest of European nations, when we see it making unprecedented and sinister records in mobilization, manœuvring, tactics, commissariat, hospital service, still we cling to it. And when, the way being over, there begins to appear a huge Japanese plan for commercial supremacy and commercial activities as strange and startling as any the Japanese forces used in war, still with pathetic confidence we hug the old delusion.

A nation of imitators! As soon as may be we should come out of that trance. Imitation as practised by the Japanese consists of taking the best thing done by Europeans and improving it and perfecting it and exclaiming it, and then turning it in its bettered state against its originators. Something in this may be fortifying

to western complacency, though I do not know what it is; but in any event we are now face to face with one development of it that may well make us gasp and give grave heed.

Observe some of the fundamental facts in this story.

Here is a country whose population, now \$8,000,000, grows at the rate of 600,000 a year. Only one-eighth of the land can produce anything; the rest is barren mountain. Of the arable land you may say that every inch that will grow green blades is under cultivation. So close is the population always to the limit of the country's supporting capacity that when falls a little too much rain and the rice crop is injured, 600,000 people are in danger of starving, and the world must come to their relief.

Plainly, therefore, it is useless to tell Japan to keep within her borders and devote her energies to agriculture and sweet pastoral pursuits. Sweet pastoral pursuits are well enough, but not in a land already cultivated to the utmost, and with a rapidly increasing population. Even if her people were so minded they would have no choice; the sheer force of conditions would drive them another way. Inevitably they must have industrial and commercial expansion—or starve. They cannot live on themselves. They are compelled to go forth and get their living by manufacture and trade.

This is enough to begin with. But it is little in comparison with what follows. This is a country where

patriotism amounts to an obsession, to a mania, to a kind of frenzied fanaticism. Other peoples, Germans, Americans, Swiss, are patriotic; but not like the Japanese. While I was in Japan they were holding in the country towns and villages funeral ceremonies in honor of soldiers killed in the war. Nobody wept or felt sad on these occasions, but the populace came and congratulated the relatives of the dead as persons blessed with notable honor. It was a precious privilege the son or brother or husband had enjoyed; he had been allowed to die for Japan. Often with public honors, with long processions under triumphal arches, and with emotional pomp the village followed to the cemetery only a bit of a dead man's garment, his cap, one of his shoes, the sleeve of his coat, all that was left of him when the shell or the mine exploded that blew him to death. But in these dreadful relics was no suggestion of pain or horror, but only of solemn joy and thanksgiving, for the young man, their townsman, had been privileged to die for Japan. "We never turn back" is the phrase often on Japanese lips that speak of national achievements. True enough seems the vault. If such stories of habitual and unquestioning sacrifice are told of other wars, the world has no record of them. Many a time the Russians trapped small Japanese detachments; never did they capture one until he was dead or incapable with wounds. There in their tracks the Japanese died, like Marauder's wolf, "in silence biting hard."

But now the people that have this capacity for self sacrifice and this insensibility to fear and pain are convinced that their destiny is to be a great dominating world power. Look-

ing back upon an inspiring history crowded with conflicts and victories beyond the record of any other nation, their religious veneration for their ancestors stirs them perpetually with purpose to be worthy of those old fighting and conquering sires. They have pitted themselves against Europeans and have won; the holy white man has no awe for them, and now they feel assured that they can beat him at any game he may choose.

More than this, these wise, keen-eyed people that sit watching intently the daily trend of the world's progress, know well enough that the real struggles for world power are to be commercial, not military; and it is on commercial and industrial fields that chiefly they expect to win glory and domination and empire for Japan.

For such contests they have two weapons of astounding and unprecedented power.

First, a working population, intelligent, capable, facile, orderly, extremely industrious, and having a low standard of living.

Second, a government astute as to modern conditions, resolutely determined to force Japanese influence, Japanese manufacturing, and Japanese commerce, and utterly unscrupulous as to the means it uses to that end.

The world has never seen anything like this combination; it has never seen nor imagined nor dreamed of the stupendous results that can be secured by it. With cheap and efficient labor Japan can produce at lower cost than any other nation; with its skilful and indomitable government it can build its industrial forces to imposing greatness; with the two, in existing conditions of private en-

terprise, it can annihilate competition.

For individuals can compete with individuals, firms with firms, corporations with corporations, trusts with trusts; but neither individual, firm, corporation, nor trust can compete with a government. And back of every manufacturing, commercial, or financial enterprise in Japan, back of it or actively involved in it, is the Japanese Government, the greatest governmental trader in the world.

More and more it becomes clear that this is the new political economy of Japan, these are the tactics by which she expects to win on the commercial battle-field. The Government is not merely to foster manufactures and encourage trade; the Government itself is to do the manufacturing, the Government is to do the trading.

In all the world not one individual, private firm, corporation, or trust, will be able to compete in the Japanese market with this Government, thus gone into manufacturing and trading.

Because the Government can at any time exclude the product of the individual, firm, corporation, or trust, exclude it absolutely and forever.

When now we add the next link, which is the fact that the new Japanese tariff, adopted four months ago, provides for this exclusion in lines of goods that the outside world once supplied, we can see a part of what is in store for Japanese commerce.

For Japanese commerce, observe; not alone for commerce in Japan. Because we come now to the final great fact, which is that these people have no idea of confining their energies within their own borders, but with

the incalculable advantage of government factories to make the goods, and government railroads and government steamships to carry the goods, they have attacked the whole vast field of Asiatic commerce in the fixed resolve to conquer and possess it.

And such a field there has never been, no, not in all the world's history. All Asia is waking from the long sleep, the yellow men are stirring, new ways and new wants take hold upon them, the huge compact herds of people want many things—the hundreds of millions from the sea of Japan to the Ural Mountains. All the east is slowly arousing; you can see easily enough that the old things will not long endure, even in India they will not long endure; and when the new times dawn all the other trading fields in the world will seem poor to this. And when they come Japan will have her hand fists closed upon that field to the exclusion and humiliation of us all.

For Japan has a government resolutely determined, by whatever means, to force Japanese manufacturing and commerce, and Japan has a working population, intelligent, capable, facile, orderly, industrious, and with a low standard of living.

China, Korea, the riches of the east—day by day Japan drives into these her government industries, her influence, her products, and day by day she begins to riden from these markets the foreign competitor she has already driven from Japan.

In the light of these facts observe the grave significance of certain recorded figures.

Here is the cut-story of thirteen years:

Japan's Export Trade.

1891. 1904.

To China\$291,292 \$33,907,936

To Korea 7,83,029 10,109,861

And here is the way Japan has prospered in trade: here is the annual revenue she has derived from her government-owned enterprises:

1893 \$4,792,744

1898 12,765,629

1903 27,831,033

1904 31,096,011

1905 37,056,446

In other words, she is in business for herself. She is an astute trader; she is pushing her trade to the utmost for the glory and welfare and future of Japan, and for the fatness of her own exchequer. She is first to make everything that her own people consume, and then, with government factories, government railroads, government steamships, sell her products to other nations.

Let me tell you a little story about flour. Japan raises some wheat, but not enough, and for years she has imported heavily of American flour, which is our article of principal export to the Pacific. Years ago Russia leased from China a certain ample territory in Manchuria, now tapped by the Russian railroad. This territory contains some of the best wheat land in the world—undeveloped. The Russians quickly perceived the wheat possibilities of this region and had begun to get it into order and to establish mills and warehouses when the war came on. The silent

little brown men, "the nation of imitators," crumpled up the great Russian power like so much burned paper, and among the spoils of their victory was the southern half of that leased Manchurian territory, the choice wheat land, and the railroad that ran through it.

That territory can grow wheat enough to supply all of the present Western Pacific flour trade.

The Japanese Government is now engaged in spotting that region with flour mills and developing the growing of wheat. In a year or two it will be ready to produce flour. No hurry. The Japanese are never hurried. Quietly they plan and scheme; with wondrous skill they build the trap and prepare the tools, and when the proper time comes go forth with certainty to skin the prey.

When the flour time comes for Japan she will be quite well equipped for competition should we or others care to make the issue. For Japan owns the railroad over which the flour must pass, she subsidizes and controls the steamship lines that must transport the flour abroad, she can lay down the flour in Japan or China at any price she pleases. She can control the transportation rates.

Meantime the new Japanese tariff increases by one-half cent a pound the duty on flour, and meantime also in China, where Japanese influence daily becomes stronger, a timely boycott drives out the American product.

The Comforts of To-day

BY EDWARD EVERETT HALE IN WOMAN'S HOME COMPANION

What a really short space of time there is between the present-day world, with all its steam engines, its electric lights, its bicycles and other wonderful inventions, and the day when all these things were unknown! In Hale, the venerable creation of the United States Senate, you can see how little comfort is taken in the beginnings of these inventions and how everything is taken for granted.

IT is curious to see that most of the great steps of advance were made without the knowledge of the people who called themselves the rulers of the country. One wonders whether in the bottom of their hearts they thought they were the rulers of the country. In the year 1793, when George Washington was the president of the United States, and when the seat of the national government was at Philadelphia, a person named Thomas Jefferson was Secretary of State. There came into his office one day a man named Eli Whitney. He had the model of a machine for separating cotton seed from the fibres of cotton. Now it has proved that because of this machine invented by this man, and because it proved invaluable to the United States of America, new cotton cloths for sheets, for shirts, or for anything else for which cotton cloth is needed, can now be made and sold even as cheaply sometimes as for three cents a yard. It has followed from this invention that the clothing of every human being in the world is more comfortable, and yet is far cheaper than it was in the year 1793. We do not care much for historical pictures now, but that would be a good picture which should represent Thomas Jefferson conversing with Eli Whitney. Jefferson was a Virginian, he had seen cotton growing, you would have said that he would have been specially interested in such an invention, but he seems to have been wholly unconscious of the importance of

Whitney's invention. Simply he signed the papers for the invention, but he makes no allusion to this patent in his voluminous diary and correspondence which continue to the year 1826.

Another illustration of the way in which the world steps forward is in the life of Robert Fulton. In early life I knew Mr. Edward Church. On a Spring morning in 1801 Mr. Church was sleeping in the same room in Paris in which Robert Fulton was sleeping, or trying to sleep. So Church told me this story. In the grey of the morning there was a tap at the door which waked them both. The early tap was the prelude of the announcement that the little boat on the Seine River, which Robert Fulton had built for an exhibition of steam navigation, had broken in two, and that the boat and the steam engine were at the bottom of the Seine.

Alas and alas, Fulton had prepared this boat for an exhibition of the steamboat to a committee of the French Academy which Napoleon I. had named. The exhibition was to be on this very day, but a great storm had risen, the little steamboat was not strong enough, it had broken in two, and the steam engine was at the bottom of the river. In those days there were not many steam engines. Because that boat broke as two Napoleon never returned to Fulton.

Fulton came to America; he launched the *Clermont* steamer in 1807 on the waters of the Hudson, and the steam navigation of to-day began. It

began on American waters, and now there is not a cove or a river or a bay or an ocean in the world but what knows what you mean by a steamboat.

All the same I have Fulton's letters under my hand, when he was living here in Washington, and the Government neither knew nor cared about his invention of the steamboat.

I do not know what the lady who reads this may think, but I wish she would think how her kitchen fire was started this morning. Here is, if you please, a letter written by William Temple Franklin in the year 1785, and here is the answer of his Parisian apothecary to whom he wrote Franklin is to have some friends at dinner. He thinks it would entertain them to have the sight of a chemical match, and he writes to the druggist to know if he could favor them with one or two matches to show at the dinner party. And the druggist writes in reply that there are but four such matches in Paris, and of the four he sends to Franklin two for the entertainment of his friends.

Side by side with that letter, as we are binding and indexing our autographs, we will put in this note from a distinguished theologian in which he describes his experience, somewhere in the 1830's, when his mother rouses him in the morning of a Winter's day to say, "Joe, the fire has gone out in the kitchen. Get up as soon as you can and dress yourself and take a pan and go across to your aunt's and bring some hot coals with which to start the fire for our breakfast." Dear reader, are we not too apt to take it for granted that we have sunlight and clear water and fresh air when the good God has given us, and are we not too apt to forget that it is only step after step that there came to us such miracles

as clothes and food and fire? Surely we owe those to the fathers and mothers, and surely we ought to repay something to the grandsons and granddaughters.

Now, for the physical force which is used in weaving the cloth or the linen or the cotton. The highest authority in the world, which is the Labor Commission at Washington, tells me that in this business of physical force every man who chooses in any of the centres of industry has one thousand times the force at command which his great-grandfather had in the same place in the year 1800.

I think there were but five steam engines in the United States at that year, with a working power, perhaps, of two hundred horses. There is hardly a reader of these lines who, if he lay down the paper, cannot hear the whistle of some one engine which controls a larger power to-day. It is hard to familiarize ourselves with such contrasts.

That distinguished engineer, Mr. George Morrison, told me that every first-class steamer which sails from New York to Liverpool develops more power than Cheops had at command for the building of the great Pyramid, which we used to call one of the Seven Wonders of the world. And it is not simply steam power which is harnessed by the men of to-day for such purposes. Such cataraacts as that of Niagara or the Spokane Falls, or as men have created at Lowell and Lawrence and Holyoke and Paterson and Richmond, and a thousand other places, are releasing laborers from the drudgery of daily toil and making them into workmen. Never forget that while Labor wears down or wears us out, Work is the control of matter by spirit. So is it that when God lifts us to a higher

world we cease from our labors, but our Works will follow us.

It is quite worth your while, or that of any young reader, to spend an hour or two in a visit to grandmother, who shall tell you from her own memory, and from what her mother has told her, of the clothing of a hundred years ago. When Grandma Lois or Grandma Eunice were little girls their father planted flax seed with special care in the very strongest and best-watered soil he had. When the Autumn came, if all things had worked well, there was flax to be pulled, not mowed, to be water retted or dew retted, as the case might be, or to be steeped in hot water. All this, indeed, if there were girls and men enough in the household to handle the flax when it was scutched — that is, broken for separation of woody coats from that which could be spun. Then it had to be cleaned, spun, woven, bleached, and finished by the members of the family, largely by the women. Little chance for Phisella or for Lesbia or for Tryphena or Tryphosa to go to school, or to play with her water colors or her pencils. The flax had to be retted, then the flax had to be spun and woven. Each well-equipped family had its own wheels and its own loom, and before Eli Whitney had triumphed over endless obstacles, the tablecloths and towels and shirts and sheets and pillow cases for every family were made from flax under the roof-tree of the house where they all lived.

And thus far we have only provided for what we are still apt to call carelessly the linen of the household. For the blankets and the carpets, the petticoats, the trousers, the vests and the jackets and the coats of the men somebody had been raising the sheep and washing them and shearing

them; somebody had been picking out the various qualities of the wool, and had been cleansing it for the loom; somebody had been dyeing and weaving it, mixed with the linen, perhaps, or perhaps without it.

Hunt up some mountaineer in New Hampshire or North Carolina or Tennessee, who will show you a little of this alphabet of clothing. I have the letter at home in which my great-grandfather, Richard Hale, wrote to his sons, Enoch and Nathan, who were students at Yale College, to instruct them about their new Winter's clothing. He and their brothers, then mother, and their sisters had all been at work for the cloth, and now he says if one of them can get leave to ride over from New Haven to Coventry he can be measured for the Winter outfit for both and the clothes shall be made ready on the farm. Ah, me! let the young gentlemen at New Haven realize that their eager studies of evolution and the correlation of forces, of the nice distinction between the optative and the subjunctive, and more important yet, the rights and the duties of a shortstop in baseball, need not now be interrupted for three days while he goes to his mother and is measured for his clothes.

Or if you go back into the history of "food," Doctor Palfrey reminds us that the familiar proverb which speaks of "port and beans" as the national dish of the Eastern States, what he calls the union of "the mearest of flesh with the poorest of vegetables," points to a period of great poverty in the infant state. The proverbial "hog and hominy" of the Middle States and the south belongs to the same period. The old jokes about a Cape Cod turkey, which is a phrase applied to the dried codfish which was one of the staples of New

England, is another reminder of the days when people lived largely on fish. There were then no ranches sending their thousands of cattle northward and eastward to the eater. As for breadstuffs, it was not a generation before the agriculture of the early planters had well nigh exhausted the soil of the sea-washed states. In default of English wheat Winthrop was buying corn from the Indians west of him for the mouths of Massachusetts Bay before his first settlers had lived a year in their new homes.

The late Josiah Quincy, who was a baby when the battle of Bunker Hill was fought, was the president of Harvard College when I was a student there. He was born and grew up in one of the most prosperous families in "The Bay." He told me once that in his boyhood, while his mother always would have a loaf of white bread in the house, it would be for fit preparation for some distinguished visitor. He said that the staple food of the household, the bread put on the table morning, noon and night, was always the brown bread of New England, "rye and Indian" is the specific term, made by the mixture of rye and Indian meal.

For myself I had never seen a field of wheat when I was twenty-two years old. The first I did see was on the eastern slope of Cayuga Lake in the Town of Aurora, in New York. Wheat is always a product of the frontier. The Rochester flour and the Richmond flour supplied the markets of America in the first half of the century. Now we go as far as the falls of the Mississippi for our best flour. And our great millers there speak of Buda Pesh as the Minneapolis of Europe.

Those of our readers who are living in flats in cities hardly know how life

is enlarged for the men and women who live on the frontier in houses which are each perhaps a mile away from any other house. Twenty years ago the dwellers in such lonely houses, especially the women who had to make home home, had no hardship or misfortune so great as that mere distance which separated them from brothers or sisters, perhaps, or fathers or mothers—indeed, from any other people. The separation came hardest on the women. For the men, they had to take the horses away, to go to the county town, or rather and thither where business or duty called them. But the mother of a family was left with the little children on the spot. Thousands of readers of these lines could write to me to say how dismal were the long days, not to say weeks, when you were shut up in such solitary confinement. For man is a gregarious animal, and so is woman.

But all this is changed now. Why, there are our friends of the Rosebud Indians scattered in their houses in South Dakota, they have hundreds of telephones, connecting cabin with cabin and house with house. And from Atcootook County, on the northeast, to Tiamana, on the southwest, the same enlargement of life is going forward, as you connect people's homes with telephonic wires.

Heaven first taught letters for some wretch's aid,
For some banished lover or some captive maid.

But, as the English story says, perhaps the captive maid does not know how to read. Thanks to Mr. Bell and his telephone, she need not learn. White Feather has only to call Turtle Dove by her telephone bell and she may talk to her in Sioux Indian if she wants to, without inquiring

whether the word allmitable is spelled with three F's or with seven. No week passes by that I do not receive some fresh and interesting testimony of the new cheer and the gladder life to different scattered homes by the great invention of the telephone.

Indeed, as I sat by a good fellow the other day, who had an ear-piece

at either ear and was listening to know if somebody were not talking to him from a ship five hundred miles off on the ocean, I learned a new lesson of the insignificance of space and the insignificance of time. The last century has given us the greatest blessings in teaching that lesson so well.

The Autobiography of W. T. Jerome

BY JAMES H. MOEROW IN WORKERS' MAGAZINE

It may appear to many that William T. Jerome, New York's district attorney, was content making big salaries having to pass through years of slavery. But this is far from the case. In his own words he tells of his struggles, not only against conditions and men, but against himself.

As a child and as a youth I had one attack after another of membranous croup. My winters were seasons of terror and suffering. I lost much time from school and tutors had to come to the house. Besides my eyes were astigmatic and I was 27 years old before I knew it. What other fellows could do at college without much effort were no done and tore my nerves. But at the age of 28 a change quickly came without medicine or corporal exercise. I had spectacles, for one thing, and that helped. Year by year, I grew stronger, and now I take poor care of my health. I eat too much, I suppose, take as little sleep as possible, and during a political campaign can work almost continuously day and night for weeks at a time.

After leaving Amherst college I went to Columbia law school, where I was graduated in 1884. Then I became a clerk in the office of Stanley, Clark & Smith, lawyers, with a large practice. My family had gone to smash in Wall street, and when that happens everything goes, roots as well

as branches. So I had no means of getting clients for the firm I was with.

In New York business connections count, especially in lawyers' offices. The situation was clear to me, and I was innocent enough and bold enough to hang out my shingle. I shiver when I think of my unsophisticated courage. Those were dreary and desolate years—four of them. I lived at home. I couldn't have lived elsewhere and paid a dollar a week for my board. But I put in my time. I took up the Harvard law course and studied it alone and to the end. I read all the law I could find and searched out its history. Finally my father sued some men in Wall street. I tried the case and won it. On the appeal I got the decision. I scarcely shall be as happy again as I was at that time.

But life dragged. My coat became shiny and even boys grew ragged around the edges. I recollect that I spoke of my discouragement to an elderly lawyer. "Don't be impatient," he said. "Business is an

accident that always happens." Moreover, I was engaged to be married and that bothered me—had been engaged for five years. I was sandy in love and most miserable. After the election of John R. Fellows as district attorney my father asked me one morning at the breakfast table if I would like a place in his office—so I can enlarge my experience, and so on. I thought of my wedding day and vehemently accepted the suggestion. Fellows always had said he was under obligations to my father, and so my father went to him and there was some talk of a \$3,200 position. I heard the ringing of my marriage bell and the odor of orange blossoms was everywhere, especially in my lonely little office where I sat and saw visions which are so sacred to describe.

But Fellows hesitated, and dodged, and never came to the point. The peal of the bell grew less joyful, the orange blossoms began to fade, and the visions stole away one by one as if ashamed of being seen in my presence. Then my father thought of Richard Croker. When I was a lad in school Croker, a city fireman, was arrested for murdering a man on election day. He was tried and acquitted. The person who actually committed the crime sat in the courtroom and heard the trial. Croker had been a rough fellow, a member of the notorious inmate gang, but he took his medicine and never said a word. He was declared to be innocent, but, nevertheless, was a marked man. John Kelly, then chief of Tammany, told him that he was ruined unless he ran for some minor office, was elected, and thus vindicated by the people themselves. Accordingly, Croker became a candidate for

coroner, or something like that. Naturally enough the newspapers attacked him, and they didn't employ soft words either. "Croker, the murderer," was printed in big type, and the fury and tenacity of the assault wore on him. One night he came to my father's house. "You don't know me," he said, "and I have come to tell you who I am. I can reach all the democratic newspapers in the city but the Herald. I am informed that you are the friend of James Gordon Bennett and his father. My wife is broken-hearted because the Herald calls me a murderer. Can't you induce the Herald to let me alone?"

My father was interested in the frank and manly character of the man, and after hearing his story agreed to see Mr. Bennett. The Herald stopped its attacks.

Therefore when Fellows began to back and fill about giving me a place in his office my father thought of Croker, who was then in the south with Stokes, the man who shot and killed Jim Fisk. He wrote to Croker. The letter followed Croker for several days and then caught him. "I have arranged it," Croker telegraphed back. Consequently I was made a deputy in Fellows' office at \$3,000 a year. It was a hard place for a young fellow. This office is the jaws of hell even when everything is honest. Under Fellows matters were awful. But I got married. I toiled like a galley slave, preparing briefs and cutting out not only the facts but the law. My work impressed the assistants, and by and by one of them said: "That young fellow can try cases." I was sent into the courtroom and made a friend of Recorder Smyth, the judge. I held the deputy-

ship for thirty-six months and was in court twenty-eight months of that time.

Presently a reform movement came along, I could have kept out of it and retained my job, but there were evils of which I knew and I thought it to be a part of my duty to help correct them. I was young and easily persuaded, and therefore readily believed that the time was at hand for better conditions of government. I even convinced Mrs. Jerome that we were bound to win, that there was to be an upheaval, and that virtue was to sit enthroned where sin was wont to congregate.

On election night I came downtown to hear the peans of victory and to do some singing myself. I walked home in the clear moonlight of a beautiful night, but in the most hopeless gloom of my young life. I crept into my flat thinking I could cheat my wife, but she was sitting up in bed. "How big is our majority?" she asked. "Polly," I replied, and I tried to look unshaken and even reconciled. "Polly," I replied, "we have been poached into the earth and are no longer visible."

In the morning I took an inventory. I had two months in office, \$350 in bank, and a wife and baby. I was scared into a state of mental paralysis. Of course I knew that we wouldn't starve. Mrs. Jerome had a home and I had one, but I was a man of family, a lawyer by profession, and the mortification contained in the possibilities of my case almost made me weep. In woe and more or less shame I served my two months and again hung out my shingle. It is heaven's truth when I tell you that I didn't smile for six months.

A man walked into my office one day and said: "I sat on a jury while you were trying a case in the Criminal court. I rather liked your way. The cashier of my establishment is a thief. I have hired lawyers and expert accountants, but can't catch him. I have spent money enough, but I want you to take hold of the matter and run it down."

I went to work and attacked the case from every possible hypothesis. By the process of elimination I decided that the cashier had removed the names of the payees to whom checks had been issued by his employer and had written in his own name. Then when the paid checks were returned to the bank he had erased his name, also with acid, and had written in cleverly the names of the original payees. I sent for a number of the paid checks and examined them under a microscope. There was no visible evidence of alteration in the writing. I had taken a course in chemistry at college and was interested in photography. The base of ink is either logwood, which is vegetable, or iron salts. I steamed one of the checks to make it moist and put it over a flask of sulphide of ammonia. The ink used by the cashier in writing his name after he had erased the name of the payee thus became black sulphide of iron and was brought out so clearly that I photographed it. I tried other checks with the same result. The bank settled with my client, the cashier went to the penitentiary, and I got a whooping fee. Thereafter I was on Easy street and once more smiled.

Clients came stragling in, and the need of money gave me no further concern. Presently the Rev. Dr.

Parkhurst made his stle about corruption in the police department, and the Lexow committee was appointed to examine into his charges. I was asked to act as assistant counsel and served in that capacity. Reforms in the way of committees followed—we had one such an organization, non-partisan in character, with a membership of seventy good and earnest men, but it was too large to be effective against Tammany. Some one was needed to look after the political end of the work in hand. I was chosen, and our forces, being thus unified, we helped to elect William L. Strong mayor of the city. Our police courts in those days were a disgrace to the community—all kinds of disreputable men were around. Some of them were lawyers and some were not. I helped to write a bill to reform these courts, and Mayor Strong appointed me to be justice of the Special Sessions, an office which I held for seven years.

I always held that a magistrate ought to have unconditional as well as judicial power. The committee of seventy asked me concerning my policy. I told them I thought we should take the worst thing at hand, which was gambling, attack it, and then let our policy shape itself. New York was as wide open as any tough town in the far west, and the police were in partnership with the gamblers.

With a peace officer and a number of men as a posse comitatus I swooped down on a place and captured every one redhanded. I opened court right there. A policeman came to me and said: "You have caught a city commissioner. Shall I let him go?" I called the man and asked his name. He told me he was John Doe.

"That's too indefinite," I replied. "I must have you as a witness. If you can't identify yourself so that I can find you I shall send you to the house of detention."

"My God!" he groaned. "you can't mean it." Then he gave his name, adding by way of explanation that he had come to the gambling house to look for a wayward son. The newspapers got the story, and my expedition gave the city something to think about and to laugh over.

One night we raided more than twenty places. Then some of the newspapers began to turn. I was denouncing the judicial reform in the dist, they said. My friends on the reform committee got scared. But I kept pounding away. I would work in court all day and do my raiding at night. Through it all Robert Fulton Cutting and several other genuine and courageous reformers stood by me. They brought about my nomination in 1901 for district attorney, and I was elected.

I was re-elected in 1905, but I would have been glad of a decent opportunity to escape. I had no money, to speak of, I never have had any insurance on my life, and I have a wife and son. I would have welcomed some honorable way back to the practice of my profession, but I didn't want to retreat nor to be whipped. I thought the matter all out and decided to ignore both political parties and go straight to the people. It was a hard fight. I spoke from five to seven times a night. On one occasion I rode thirty-six miles in an automobile between dark and 1 o'clock in the morning and made half a dozen speeches. The newspapers reported what I said and I

had to have something new for every audience.

I believe in political parties, but platforms do not make political parties. There are two general groups of men in this country. One group is conservative in different degrees, shading downward from progressiveness to inaction. These men are republicans. The other group is liberal, believes in advancement and often runs riotously into radicalism. Such are the democrats, and I am one of them. So the divisions among men who think in English are generic. Platforms usually are claptrap and politicians often are opportunists who follow after votes rather than principles. McKinley's free silver speech a few years later could have gone out of Bryan's mouth and been acceptable to a large part of the democratic party. Then, too, the American people are idealists and desirous of having honest judges. A man may not live up to his own standards, but he expects his public officials to do so.

When I got into a house of my own, after my election as district attorney, I thought I should like to run a lathe. I got one and put it in my basement. Then I bought other metal working machinery. Now I have three machine shops at my home in Lakeville, Conn., which contain two engines, two generators, and everything else that a machinist would need or think of. I make all

kinds of things out of metal—compasses, ornamental brass boxes, etc.—and I love the work. During my vacation I spend from ten to twelve hours a day in my shops. What little I know I learned myself, and I find great delight in discovering how to do things which are common enough to men who have learned the trade. When an artisan lays out mechanical work and executes it he gives it more and better thought than would a lawyer who is engaged in ordinary practice. It is an intellectual pursuit. Moreover, I have found that when a man, especially if he is young, has stood behind a machine for ten hours he doesn't want Carnegie libraries nor essays in the evening, but amusement.

I made but one promise when I was running for district attorney. I said if I were elected I should be the lawyer of the people. If I practiced corporation law I would associate with my clients, live among them, go to their clubs, and, if fancy, ride in an automobile. Elected to the office I wanted. I chose the most densely populated district in the world for my home. I live in a flat and have an assistant and a detective with me in the morning and in the evening. We listen to every complaint that is brought to us—2,000 of them a year. Mrs. Jerome spends two or three days each week at the flat and then we go to Lakeville over Sunday.

It is the demands, not the promises, that make men of us; the responsibilities, not the enjoyments, that raise us to the stature of men and women.

Manufacturer and Social Reformer

BY RICHARD WESTHOPE IN THE YOUNG MEN.

The subject of this sketch is Mr. R. Seebohm Rowntree, one of the leaders of the great social movement. Starting his business life at the age of nineteen, he has not only had remarkable success as a manufacturer, but has also been able to secure the confidence of the working people generally. Some of the reforms he has brought about are recorded on this article.

IT is not often that a young business man not yet thirty-six has achieved so epoch-making a work as has the subject of this sketch. B. Seebohm Rowntree was born in the year 1871, and it is largely owing to the influences of his home life that his thoughts were turned to the problems of social reform. His father, Joseph Rowntree, in addition to being the head of a large industrial concern, has been for years a close student of all matters relating to temperance reform. In collaboration with Mr. Arthur Shewell he published in 1899 a book on the subject, which became at once a leading authority on the whole question. In his home there was combined with the Quaker simplicity of life a serious feeling of responsibility for the condition of the people, with a complete absence of any feeling of class superiority. Mr. Seebohm Rowntree owes much, he tells us, to the fact that he was early brought into sympathetic relations with working-people, and learned to respect them as friends and fellow-workers.

Next to the influences of the home, rank those of the school, and this was emphatically the case with Seebohm Rowntree. For five years from 1883-8 he was a scholar at the famous Friends' School in York, familiarly known as "Bootham." Here it was that on "other days the tribute of the people, John Bright, was, for a time at least, a student, which fact is commemorated in the John Bright Library, erected some few years ago

with the new school premises after a disastrous fire. To this school, where gather year by year the elect youths of the Quaker fellowship, went young Rowntree, and Bootham laid upon him, as it does upon all its alumni, the mysterious magic of a great tradition. At the close of the school period he entered as a student at what was then the Owens College, now the Manchester University. He went there especially to study chemistry under the famous teacher of those days, Professor Schorlemmer.

Both during school and college life he was deeply interested in social questions, so that when in 1890, at the age of 19, he returned to York to commence his business career he possessed the inner bias which outward circumstances were soon to develop.

He began his business life in the most thorough way. He was at the cocoa works every morning at six o'clock. He went through each department, learning by actual experience the secret of every process. During this period he acted for two years as works' chemist, only relinquishing the position as the growing expansion of the factory required the greater experience and the complete energies of a specially-trained chemist. It was during the early years of his business life in York that he attached himself to a movement which we cannot but think has exercised a profound influence upon all his after activities. Seebohm Rowntree's father, along with his

uncle, John Stevenson Rowntree, and a friend lately deceased, Thomas Coating, were the pioneers of the adult school movement in York. When young Rowntree left Owens College and returned to the city, he attached himself to his father's class in the school. He did a good deal of waiting in connection with it, and as time went on occasionally taught the class. The endeavor to educate and Christianise in a broad, unsectarian way the workmen, first of Birmingham and the Midlands and then of the whole of England, is worth a little attention. It was originated some sixty years ago by the late Joseph Sturge, of Birmingham, which city is still the Mecca of the movement. The schools began at 7.30 on Sunday morning, and combined both instruction in reading and writing (usually occupying the first half-hour), together with a free study of the practical teaching of both the Old and the New Testaments. It is perhaps the one religious movement to-day which to any extent deeply touches the artisan population of England. It was never sectarian and is to-day less so than ever. It has outgrown the conditions of its own birth and early years, and is now a Christian national movement, with a national council on which are represented most if not all the religious churches and societies in England. The membership approaches 100,000, and it is growing at the rate of about 1,000 new members every month. Each school and each class in each school is a little democracy, which elects its own officers, transacts its own business, and pays its own way. The men meet round the open Bible in a truly Galilean fellowship, where each learns from the other and where no man counts for more than one. It was in

a fellowship of this kind that Seebohm Rowntree first, unconsciously perhaps, realized his solidarity with the workers and found scope for those energies of social reform which had been growing with his growth. Here, in conjunction with others, he founded perhaps the first anti-gambling society in the provinces. This has become the York Anti-Gambling Society, which, besides doing much excellent educational work for several years, has within the last few months published a volume of essays on the subject, which will prove of very great value to all those who are working in this cause. York has two race meetings in the year, in May and August, and Mr. Rowntree has taken a leading part with others in organizing counter attractions in the way of excursions and entertainments during race week.

Coming now to matters more directly affecting the cocoa factory, we may say that the subject of our sketch (Mr. Seebohm Rowntree) is a convinced believer in what we may call the new industrialism. He believes that the best work is always done under the best conditions and the best pay possible under present conditions. The Messrs. Rowntree were one of the first firms, more than ten years ago, to institute the eight-hour day, and the social betterment policy, as it is called, cannot be better illustrated than by a careful study of the industrial conditions obtaining at the cocoa factory. The light and airy dining-rooms, both for men and women, the ample provision of recreation grounds for football, cricket, bowls and similar privileges for the women, speak for themselves.

The social staff now comprises some seven or eight ladies and gentlemen who give up practically their whole time to furthering the manifold ac-

tivities designed for promoting the fullest development of the workers. There are clubs and societies of all kinds. There are allotments for the man and small garden-plots for the boys, with an annual horticultural show. At the head of the men's department is a university man, who, in addition to all else, edits a monthly magazine devoted to chronicling the doings at the cocoa works. The lady head is a gifted woman, who was formerly a teacher in the principal girls' school of the Society of Friends, "The Mount," York. The latest developments are a works doctor who can be consulted every day free of charge by any of the employees, and a dentist, who, it is needless to say, is kept very busy. The most recent additions to the staff are a cookery lecturer and a teacher of dress-making, and all girls under 17 have so much time every week given to this necessary work, at no cost to themselves.

We chronicle these social activities because they are in some measure due to the initiative of and have always had the special concern of Mr. Seeborn Rowntree. In the factory he is familiarly known as "Mr. B. S. R.," and somehow the place never seems quite itself if he is long away. He strikes one as possessed of a genius for organization down to the smallest minutiae. If, as occasionally happens in a colony of something like 3,000 workers, there are langles that want straightening out and differences to be adjudicated upon, it is to "Mr. Seeborn" the workers instinctively turn. He is trusted because he is believed to be just. He hears patiently evidence on both sides, and then comes to a conclusion which is generally felt by both the parties to be fair and just.

In conclusion, Mr. Rowntree is

peculiarly happy in his home life. He has in Mrs. Rowntree a lady who can enter with the sympathy born of knowledge into all the questions that affect the life of the people, for is she not still remembered with loving thoughts by many to whom she ministered when she was "Sister Lydia" of the York and County Infirmary? They have three children, two boys and a girl, and they are early learning the lesson that the only joy of possession is in sharing.

In their grounds at "The Homestead" all through the Summer holidays the children from the elementary schools of York can come every day from 9 to 12 and find every kind of provision for their happiness. There are donkeys, sand heaps, and giant-strides, and, best of all, young people to organize their games and see that all have a good time. In addition the grounds are open to adults all through the year, and twice a week a band plays, and every Sunday afternoon from 2.30 to 4, when some hundreds of people enjoy the pleasure of intercourse with one another under such happy conditions.

Mr. Rowntree would be the first to admit the injustice of the present social and industrial conditions, but I do not know any capitalist who is making a more honest effort to ease the present strain and to prepare the way for a better and happier condition of things. This sketch would lack completeness were there not some reference to the model village which the Joseph Rowntree Trust is building about two miles out of York. New Earswick comprises an estate of about 120 acres, on which houses are being already built on the best conditions and at the lowest possible rent.

Of the Joseph Rowntree Village Trust, as it is called, Mr. Seeborn Rowntree is a trustee and is most deeply interested in the success of the scheme.

The Making of Mummies

BY HENRY SIMON IN PACIFIC MONTHLY.

Desecration, as practiced in the world of commerce to-day, is carried even to the vases and figures of mummies. In Southern California quite an extensive industry has been built up for the production of imitation mummies, which are said to mummify to be exhibited as genuine relics of antiquity.

TO see a mummy making—not a plaything or a clumsy fake, but a real, "full-grown," awe-inspiring mummy, undistinguishable by any outward feature from an original, with the brown hue and the dust of thousands of years upon it, with the true parched skin, the sunken eyes and the tufts of black hair dangling from beneath the half-ton rags of the bandaged head—is a sight which few have ever thought of as possible, and which very few, indeed, have ever thought about at all. We go into museums and other exhibitions where we look upon the mute witnesses of bygone ages; some of us with mere interest and curiosity, many with a feeling of fear, and a slight shudder; we are all more or less deeply impressed with the sight, and something tells us that what we see is real—that those silent figures once were men like ourselves, who lived, and moved and thought; we know that there can be no fraud about them—indeed, our very instinct tells us that there cannot.

The idea that any of these venerable mummies, whose aspect rouses feelings of time and awe within us, could have been manufactured; that instead of being dried-out flesh and bone, they could be sacking, bamboo and plaster; that the crumpling brown skin could be cheap cotton tissue painted over with glue, the age-worn teeth bits of cow's horn, the hidden back-bone a rough plank, the ghastly head a solid block of plaster

—this possibility never enters our mind at all, and even if we thought of it, we should at once reject the idea as utterly absurd. Yet it is not so by any means. In spite of all our never-erring sensations and "feelings," each one of us may have been, and very likely has been, "taken in" a good many times by mummies.

In Los Angeles, at the present moment, in Spring street, every one who doubts this statement may convince himself of its truth, and get for ten cents and in fifteen minutes more knowledge and experience in certain matters than he would otherwise have accumulated perhaps in a lifetime. For there he will find a shop wherein he can see mummies made—made to order, in any size and quality—in all stages of "evolution," and besides get all the explanation he wants concerning the matter.

The present scribe passed the shop several times, and looked at the curios and mummies exhibited in the shop window; he examined them minutely, with concentrated attention, and having satisfied himself as to their indisputable genuineness, wondered how it was that mummies should be exhibited for sale; and when at last he observed the invitation to "Come in and see a mummy made," it was several minutes before he was able to realize that the bodies he was looking at were arti-

ficial. Then he went in—and learned.

Mr. Fisher—this is the able craftsman's name—exposes his whole process, from the beginning to the end, without making the least secrecy about it. He shows you anything of his implements and methods you want to see, and answers all your questions. Why? Because he is going to retire from the trade pretty soon, making now his last few "orders," and after having kept his art hidden from the public for more than a quarter of a century, has chosen, with exquisite cynicism, to give a practical lesson to those who have ears and eyes and will hear and see.

The whole factory outfit consists of a great rough table and one or two smaller ones, upon which several mummies are lying in different stages of development. You will find one that is quite finished, another only just begun, and a few in an intermediate state.

The first step taken in the manufacture is the preparation of a simple plank, the "vertebral column," which gives a stay to head, body, legs and all, and to the end of which are nailed one or two short boards representing feet. Then a bag of soaking, corresponding in form to the shape of the body, is produced around the plank and stuffed with excelsior. The ribs are reproduced by bamboo straps, the arms and fingers consist of several big and some small sticks.

All these things are attached to the outside of the bag. The rough body thus produced is covered with a thin coat of plaster to the extent of the chest and abdomen, or wherever else any part of the body is intended to show. On top of this plaster a coating of gine is put, and a

fluffy tissue pasted on, which is again covered with gine. The body at this stage is of a yellowish color, and in touch and appearance resembles almost exactly a fresh human carcass.

The head is next placed in position and covered with glue and tissue in the same way as the body. The eye-holes are painted dark-brown inside and covered with a piece or two of the same material, with a small slit in the middle, which gives a marvelously good representation of the sunken, dried-out eyes of the real mummy. A few hairs are pasted on the top of the head, the teeth are made out of small bits of horn, and the head and neck, with the exception of the face, are wrapped with several layers of thin, ragged cotton, held together by bands. The whole body is treated likewise, leaving such spots as is desirable to show the skin and bones underneath. Then the form, which has partly been painted before the outer covering was put on, is dyed once more, together with all the rags and bandages, and when perfectly dry, presents the exact appearance of the real old Egyptian mummy. Finally, the body is strewn all over with grey dust, or powder, which partly fills all the holes, and, if there was the slightest ground for scepticism left before, removes that entirely.

The writer of these lines has, in different countries, seen hundreds of mummies; genuine, and, as he is now convinced since a short time, some not quite genuine ones. But even on closest inspection he was not able to discover anything in the artificial product that was not exactly in accordance with all he ever observed in the original mummies. The very shape of the head, the expression of the hollow eyes, the shriveled lips,

the bits of skin and bone exposed; the general aspect and pose of the limbs and body, wrappings and all, are such as to exactly resemble the genuine article, and would, were the results of the artisan's labor exhibited in a museum, deceive any but the eye of an expert—and his, too, unless he looked very close. Standing in the very workshop, seeing them made, and hearing the maker's explanations, it is hard to realize that those weird figures should be imitations.

And if the artist tells you that he has been working in his line of business for twenty-nine years; that he has learned his trade in a regular factory long ago, and that he is able to turn out several mummies a day; then, gentle reader, you will perhaps agree with me that even your keen

eye and undeceivable instinct may have been deceived, and that very likely it will have been deceived, if you will but stop to roughly calculate what this one man alone has done in his time.

Many more genuine articles issue from the same deft hands, but they are of comparatively minor interest; mermaids, "Alligator Boys," and similar remarkable and fabulous creatures are manufactured here as well as Indian war relics and curios that will astound thousands hereafter. But, as the clever sculptor remarks, the world will be deceived, and a man would rather pay fifty cents to see one of these products in a show or museum than pay ten cents and see it made.

Habit is the deepest law of human nature. It is our supreme strength, if also, in certain circumstances, our miserablest weakness. Let me go once, scanning my way with any earnestness of outlook and successfully arriving, my footsteps are an invitation to me to go the second time the same way; it is easier than any other way. Habit is our primal fundamental law—habit and imitation—there is nothing more personal in us than those two. They are the source of all working and all apprenticeship; of all practice and all learning in the world. — Carlyle.

Humor a Great Element of Success

BY JUSTIN MCCARTHY IN *THEIR* MAGAZINE

A man holding humor is often liable to take too dark a view of events. Gifted with a business sense he is able to see the brighter side of things and to cheerfully pass forward. History often mentions where a leader kept to the optimism of the followers in the hour of trial by giving play to his own sense of humor.

SHAKESPEARE has declared that "the man that hath no music in himself, nor is not moved with concord of sweet sounds, is fit for treasons, stratagems and spoils," and assures us that "the motions of his spirit are dull as night." It seems to me that the man that hath no humor in himself deserves much the same sort of description. I am of the opinion that a quick and abiding sense of humor is a great element of success in every department of life. I do not speak merely of victory in the more strictly artistic fields of human work, but am ready to maintain that, even in the prosaic and practical concerns of human existence, the sense of humor is an invigorating and sustaining influence to carry a man through to the full development of his capacity and the attainment of his purpose. It is so in the art of war—it especially is so in the business of statesmanship.

Mortal life, at the best, is so full of perplexities, disappointments, and reverses that it must be hard work indeed for a man who is endowed with no sense of humor to keep his spirits up through seasons of difficulty and depression, and maintain his energy—living despite the disheartening effects of commonplace and prosaic discouragements. A man who easily is disheartened does not appear to be destined by nature for the overcoming of difficulties, and nothing is a happier incentive to the maintenance of good animal spirits

than the quick sense of humor which finds something to make a jest of even conditions which bring but a sinking of the heart to the less fortunately endowed mortal. In the stories of great events and great enterprises we are told of some heaven born leader who kept alive, through the most trying hours of what otherwise might have been utter and enfeebling depression, the energies, the courage, and the hope of his comrades and his followers.

One can hardly read the story of any escape from shipwreck, any drifting about in an open boat over wintry seas, without learning of some plucky and humorous mortal who kept his comrades alive and alert through all dangers and troubles by his ready humor and animal spirits. Read any account of a long protracted siege, when the besieged had to resist assault from without and bunger within, and you will be sure to be told how the humorous sallies of some leader were able to prevent those around him from sinking into the depths of despair. There are times when no good whatever is done by taking even the most serious things too seriously, and a sudden flash of humor often lightens up the atmosphere as the blast of a trumpet might give new spirits and new energy amid the deepening gloom of some almost desperate day.

Most of the world's great military leaders have been distinguished for their keen sense of humor. Even if

we go back to the distant historic regions where fact and fable are blended beyond the power of modern analysis, we shall find that the supreme leaders of men were endowed with the keen faculty which can lighten a trying situation by a timely jest. Homer's Achilles had, perhaps, a little too much of a cruel humor in some of his practical jokes, but we cannot help seeing that he was a man who, at a moment of deepest depression, found the means of appealing in congenial fashion to the livelier qualities of his companion Greeks, and saved them by some happy phrase from the "creeping paralysis of despondency."

Diomedes, too, appears to have been endowed with the same wonder working faculty, but I always have regarded Agamemnon as a solemn and pompous person, who had no sense of humor to senson and qualify his all pervading sense of personal importance. Theorists, of course, was a mere buffoon, and mere buffoonery is incompatible with a keen sense of humor. Ulysses, we may feel well assured, must have pulled himself through many of his difficulties and dangers by his happy faculty of discerning whatever was humorous in a situation, and keeping the spirits of himself and those with him up to the mark by some lively and inspiring illustration. Hector of Troy always has been one of my favorite heroes, but I regret to say that I cannot see any evidence which authorizes me to credit him with a keen perception of life's humorous side, and we know that the brave and serious husband of Andromache came to utter failure in the end, and was made uselessly sport of by his rival among the hostile gods.

Julius Caesar, as we all know, had a keen sense of humor. Some of his jests and his odd jocular sayings have been recorded in history and still may be appreciated, and the few relics we have of his poetical ventures give evidence of his refined and delicate humorous perception. Only to a man blessed with a sense of humor would any one have ventured on the eccentric method by which Cleopatra's first presentation to him was so oddly accomplished. Was there not even a certain melancholy in these last words recorded of him when the stab of Brutus' dagger brought his life to a close.

It commonly is said and believed that George Washington was wanting in humor. I never have seen any reason to concur in this belief, and lately have been reading in a biography of Washington, by Norman Hapgood, many passages which confirm me in the opinion that the stereotyped description of Washington's character is defective on this point, and that a sense of humor was one of his characteristic qualities. A passage from one of his letters, quoted by Hapgood, seems to me to contain some delightful touches of humor. In it Washington, who is writing about the army of painters and sculptors who were, as Mr. Hapgood puts it, "busy seeking his and their own immortality," says:

"I am so hackneyed to the touch of painters' pencils that I now am altogether at their beck, and sit like Patience on a monument whilst they are delineating the lines on my face. It is a proof, among many others, of what habit and custom can accomplish. At first I was as impatient at the request, and as restive under the operation, as a colt is of the saddle.

The next time I submitted reluctantly but with less flouncing. Now no dryhorse moves more readily to his thills than I to the painter's chair."

I might quote many other evidences taken from the same volume which show that under the gravities of Washington's expression of face, and under his quiet, restrained manner, there burned the light of genuine humor, which occasionally shot forth its flashes to those around. One can well understand how such a light must have cheered its owner through the long strain upon his patience and perseverance to which he had to submit during many of his campaigns which seemed, from time to time, almost hopeless of happy results, but which, under his guidance, ended in complete success.

Turn to the extraordinary career of Abraham Lincoln. Here we have a man who could apply his gift of humor to the most practical purpose of political life. He could put new heart into discouraged followers by some suddenly appropriate jest; he could throw light on some obscure problem in statesmanship by a humorous anecdote; he could reduce some opposing proposition to more absurdity by a ludicrous comparison; he could dispose of some pretensions objection by a jocular phrase. We know, from all we have read of Lincoln, how his marvelous gift of humor sustained and comforted those around him in the darkest season of what seemed to be almost hopeless gloom. The whole career of the man would have been different if he had not been endowed with this marvelous possession, and, indeed, it hardly seems possible to form any conception of Abraham Lincoln with-

out his characteristic and priceless endowment of humor.

The more earnest a man is the more thoroughly pervaded and inspired he is by this humorous instinct, if he happens to possess any faculty of humor at all. Some of the most powerful preachers the world ever has known were blessed with this gift, and were able to use it for the noblest ends without seeming to lower the sacred dignity of the cause they had at heart.

I have not said anything in this article about the men who merely were humorists and achieved success as such; for, of course, to affirm that the gift of humor is essential to the success of a mere humorist would be as vapid a truism as to declare that a great musician must have a sense of music, or that a great painter must have an eye for outline and color. Even Sydney Smith, who always employed his gift of humor for the exposition and maintenance of purposes and principles essential to the progress of humanity, does not come within the scope of this article, the main object of which is to maintain that humor may be one of the main elements of life in any manner or career, and, if it does nothing better, may help its possessor to bear up cheerily against difficulties, and find new courage to sustain him in his further efforts.

I am confident that the more closely and deeply the question is studied from the history of any time, and from all that we know of the lives of great men, the more clear it will become that humor may be considered one of the elements of success, along with perseverance, intelligence, clearness of purpose, readiness of resource, and enduring hope.

The First Russian Parliament

BY DR. RAPPOPORT IN FORTSIGHTFULLY REVIEW.

Much has been spoken and written about the Russian Duma but, to guess, this new Parliament is still something about which they have little and knowledge. In the following extract some light is thrown on the organization of the Duma. It is shown how close to the various elements of which it is composed and how responsible it is to expect for reading could be from its meeting.

IN the first instance the Duma can have no deep nor far-reaching influence, as it can hardly be called a truly representative national assembly, impersonating the will of the people. The workmen have practically no deputies in the Taurida Palace. On the one hand the majority of workmen and artisans, who are recruited from among the peasant class but who work in towns and cities during a certain portion of the year, were deprived of the privilege of voting and took no part in the elections. As workmen, living in the towns, they had forfeited their rights to vote with the peasants, whilst on account of their mere temporary sojourn in the towns they were not recognized as townsmen and were thus unable to vote with the latter. Those on the other hand, who were admitted to vote had to pass through the three-stories system, the triple crucible, so that their votes never reached the Duma. Many again were either too frightened to record their votes or were simply prevented by the Government from doing so. As regards these, one need only think of the numerous arrests that accompanied the Duma elections. Over 30,000 voters were filling the various state prisons, whilst the people were electing their representatives for the national assembly. Wherever a candidate was nominated for election by the workmen, he was speedily arrested under some pretext or other. In many cases the electors, in a spirit of bitter irony, nominated some in-

valid or cripple, some lame or blind harmless individual whom, they said, the Government would mercifully spare.

Many provinces, it must further be borne in mind, have sent no representatives as yet. The elections have not yet taken place. And when the newly-elected members arrive some day on the banks of the Neva who knows whether they will not find the gates of the Taurida Palace locked or Cossacks barring their way, shouting, "Tee Kooda" (whether art thou coming?). Thus Siberia and the Caucasus, with a population of more than twenty millions, have no representatives in the Duma. The two provinces, with such important centres as Baku and Tiflis, are still in a state of siege and under martial law. It was a very wise precaution on the part of the Government to prevent Siberia and the Caucasus from sending delegates to the Duma. Siberia, where thousands and thousands of exiles, intellectuals and revolutionaries are dwelling, is too much imbued with the spirit of liberalism and hostility to the existing order of things to be trusted. The representatives, arriving from the snow-covered wastes of Siberia, would bring the glacial air of suffering and the fiery spirit of vengeance into the midst of the Duma. There is also no one, for the present, to represent the interests of Armenians and other hostile tribes in the Russian Parliament. As far as the peasants are concerned they can hardly be said to have been

electing their members quite freely and in full cognizance of facts. They were compelled by the Zemsky nats-shchiks to vote separately, whilst all orators attempting to explain matters to the ignorant Moujik were quickly silenced. In many of the south-western provinces Jews, arriving in the villages during the elections, were, without any further inquiry, immediately expelled. Their mere presence became dangerous, since a conversation with them might enlighten the peasant, who at all costs had to be kept in the dark. I will not dwell on the gagging of the press and other restrictive measures. The following figures will, however, give some idea of the rigorous manner in which the restrictions were systematically carried out. During the short period of one month, from December 25, 1905, to January 25, 1906, seventy-eight journals were suspended in seventeen towns, and fifty-eight editors arrested. A state of siege was proclaimed in sixty-two localities and that of extraordinary police supervision in forty-one others. (Russian correspondence No. 17, February 17, 1906.) The Duma, one must therefore admit, will have no right to speak in the name of the people, as its authority is not and will not be recognized by a considerable portion of the nation.

From the general aspect of the Duma I will now pass to its constituent elements and to the various social groups that form the present assembly in the Tavrada Palace. Peace and unanimity seem to reign supreme and to knit into one the multitudinous elements. The sun of good will cast its golden rays upon the assembly, but, alas, it is only an ephemeral glamor. Any close observer will observe the dark spot on the horizon, which is speedily growing into a

cloud and which will soon burst into a mighty storm.

Conflicts will arise, since the interests of the various groups are so utterly different, nay, so diametrically opposed. The psychology, the aspirations, the ideas and conceptions, social, religious, and economic of these groups are so widely divergent, so heterogeneous, that a united action in a constructive sense seems almost impossible. The court party and the partisans of autocracy know it and reflect upon it. They know that the elements constituting the Duma are marked not by a centripetal but by a centrifugal force.

The first and foremost, by far the most important compact group in the Duma, is that of the Constitutional Democrats, numbering about 200 members. It is from among the Constitutional Democrats that the president and the bureau were elected. A close analysis, however, of the members belonging to this party will easily convince the observer that even were they animated by the best wishes to act unanimously it will be impossible for them to do so. They have very few interests in common, they belong to different worlds, to different classes of society, they uphold quite different traditions and are far from being animated by the same aspirations or from cherishing the same ideals. Their Weltanschauung, their views, will soon have to be put to the test, and a clash, or fatal conflict, is inevitable. The left wing of this group consists of the so-called intelligentsia, lawyers, physicians, teachers and students. Most of them are radicals, revolutionaries inclined to nihilism, dreaming of a Republican government. Most of them are the members of the Union of Unions. They were the minor Zemstvo workers. Their personal interests are

centred in the towns, they have no land and are consequently likely to be intransigent on the agrarian question. Side by side with them—for the present at least—sit the progressive, liberal landowners, members of the nobility. They form the right wing of the Constitutional Democratic party. Education, tradition, surroundings, milieu and environment, have tended to produce a different trend of thought in them, more moderate, more conservative, than that of their co-partisans. They are mostly monarchically inclined. Their interests are almost entirely rural, their very existence is closely connected with the land question. Yonder, again, is the group of peasants, of long bearded and shaggy Moujiks. They are all inspired by the same desire and cherish the same ideals; they will act unanimously, one would think. I doubt it, however. They, too, belong to different schools. Some of them have suffered terribly, in person and property, from the Government; they remember the lashes, the napalkas, the cruelty of *tschorniks* and buteasars, of police and of Cossacks. There is not the gospel of love, but that of hate. It is the gospel of hate and destruction which they will preach; hate against the oppressors, destruction of the existing order of things. "Deliver us from the rule of the Cossacks and of the police," is the sole mandate many of these deputies have received from their electors. Abolition of the present regime—*tabala rasa*—is their sole programme; and, in the circumstances, it is perhaps the wisest programme, too. The man with the one arm in the midst of the peasant group is Shurkof of Samara, a peasant whose body only a short while ago was smacking under the lash (200 be received), and whose arm was

broken by a soldier's bayonet. "Hold up your broken arm as a sacred trophy in the face of the members of the Duma," said his electors, "should ever the interests of the peasants be forgotten by them." The education of the peasant-deputies is not equal either. Their mentality and knowledge are widely different. They do not all see things from the same angle of vision. Three peasant delegates, coming from the province of Pudolia, can neither write nor read. The following incident is rather interesting. When the name of Gredes-coul was proposed as that of a suitable candidate for the vice-chair, the peasants, who had never heard his name before, asked for information "He has been exiled," was the only reply they received. "Oh, then he must be a good man," observed about 150 members in Russia's Parliament, "we must vote for him." How touching, but how primitive! Another contingent of the peasant group is that of small peasants, well-to-do and fat Moujiks, whose only ambition is to become small landowners in their turn. Personal liberty, equal rights, democratic government are high sounding words for them, of which they have only a very hazy conception. And in fact they care very little for anything except the land question. They are Constitutional Democrats to-day, but they will as easily side with any other party in power. The transition will be the easier for them, as they are scarcely aware of the differences. Poles, Lithuanians, Moslems, Jews, and above all the centre, consisting of about forty staunch Conservatives, members of the union of the 30th of October, are forming themselves into other compact distinct groups with separate interests which cannot fail to create a tension and to engender

hostile feelings, giving rise to dramatic incidents of a tragic nature.

Such was the prologue, such are the actors in the great play which is being performed in the Tavrda Palace, and which Europe is witnessing. Does it require an exceptionally clever dramatic critic to foretell the dénouement? As a sequel to the comedy of the pronouncement, expressing the "indefinite will" that Russia should be free, we shall soon be spectators

of the tragedy of a conflict in the Duma and of the ultimate triumph of autocratic and bureaucratic rule. Given the groups constituting the Duma, their heterogeneous ideas and interests, given the complexity of the questions before them—and the stage-managing must not be forgotten either—the drama will inevitably move rapidly forward, until the curtain falls upon an ending that will be far from "a happy ending."

Portugal's Gigantic Daughter

BY ETHEL ARMES IN THE NATIONAL MAGAZINE.

Brazil, the new South American country, is becoming day by day more important in the eyes of the nations of the world. Not only its wealth of resources, its strategic position, its general position in South America, but its people and its government are more and more becoming known to the world.

THE Pan-American Conference will take place in the City of Rio Janeiro during this coming month of July. Recently, with all the world's vision concentrated—too exclusively—on Japan, this other country, quite phenomenal in point of political progress, of industrial and commercial development; next neighbor to us; allied in peoples, languages, customs and religion, has been swimming into view, all but overlooked; Brazil,—Estados Unidos do Brazil—the new republic of South America seventeen years old November next.

No longer to us solely a stupendous physical fact on the face of the globe, stretching through many zones, almost half a portion of a continent; a far, vast reach of lowland and forest, plateau, plain and prairie; highland and mountain chain and peak; valley and wonder-river; city, town, village and mining camp—the whole rich and mystic with gold and heavy

tropic sense, magic tree and flower and bird, dreams of Spanish romance, laugh of leaping adventure!—fairy savage and beautiful,—all this is at last married to a staid, practical and stable government; sober, level-headed and wise; the very sort to breed out of her the best and guide her to worthy and honorable place among the nations.

From abate that mighty and majestic line of seaboard, no more dormant, sleeping, feverish with revolutions ever impeding, she has at length fully awakened, armed, entered the race with spirit and hand to maintain her status—third among the world's great powers, in something more than mere size and rich embryo.

As in the United States, so there is in Brazil the same fusion of races and of nationalities; Italians, Portuguese, Spanish, Germans, Austrians, Scandinavians, Poles, Russians, English and French, of whom the predominating race, in so far as numbers

are concerned, is the Italian. There are nearly four times as many Italians as Portuguese in Brazil, notwithstanding the fact that the country was for so many centuries a Portuguese colony, then a Brazilian empire, and now a Brazilian republic with the Portuguese tongue the official language, and manners and customs, and leading families to-day harking back to the motherland of Portugal, as America to England.

The African, and particularly the native Indian element, once so in the ascendant in certain portions of the country—a veritable flood devastating the colonies—is, at this time, the native scarcely surviving indeed, being cleared out by the ever-strengthening current of the new and stronger racial waters that sweep across the land. Latin and Anglo-Saxon and Slav and Teuton and Norse—they have met and commingled there as here. In a few generations the term "Brazilian" will mean as heterogeneous a quantity as the word "American," with the one difference: significance of Portugal, not England, attached at root.

The matter of this tremendous foreign influx and influence; the state of Brazil's modern government; a summary of that accomplished during the administration of ex-President Campos-Salles and President Alves to-day; the personnel of the Brazilian cabinet; the leading statesmen; the advance in education, literature and fine arts; immigration, colonization and commerce; the predominant industries of Brazil; her industrial, labor and financial conditions; all matters of essential and growing interest to the world and especially to this country, were set forth concisely and vividly in several recent interviews with the Brazilian ambassador.

Mr. Joaquim Nabuco, the first fully accredited ambassador of the United States of Brazil to the United States of America.

The social and economic conditions of the country have undergone a complete transformation, quite naturally, when it is considered that the abolition of slavery took place only in 1888 and with the organization of the federal government in 1890 everything underwent a change, startling, abrupt. It was at a most tremendous cost that immigration to replace slavery on the plantations was brought into the country. Then almost immediate over-production ensued. This brought on such a deluge it devastated all the former prices.

In 1895 the revolutionary movements wrought a terrible upheaval of the government finances, and the long series, a mountain chain, of debts that encircled the government, seemed almost impassable.

But Brazil has come safely through, owing mainly to the wise policy of President Campos-Salles and his associates. The new tariff laws going into effect this year will make the greatest changes in the financial and economic conditions of the country. This tariff is highly protective in its character, aiming to shut out from Brazil as much of the foodstuffs, flour and wheat especially, and harvesting machinery as it can by means of high duties, so as to encourage the production of these articles and commodities in Brazil. In a few years it will be seen how much this will redound to Brazilian wealth and stability.

One of the chief aims of the present administration is to seek to improve those laws designed to benefit the farmer and increase the land

values of this fertile country.

The tendency of the modern legislation is, as I have repeatedly pointed out, in favor of modern reform and reorganization. No law remains long on the statute books unless it prove a distinct and national advantage.

The new president-elect who was chosen on March 1 by the republican party, Dr. Affonso Penna, (the present vice-president) is a progressive man and will continue to follow out the lines set to be of such great benefit to Brazil, when he comes into office in November next.

Regarding the question of foreign immigration there is much to say. This matter is given very especial attention to-day under the department of industry and public works. At present the immigration that comes to Brazil is voluntary. Those from Northern Europe settle in Southern Brazil and those from Southern Europe settle in the northern portion of our states. The immigrants are chiefly Italians, Germans, Portuguese, Spaniards and Poles. Very rich colonies which have developed into important centres of industries and population have been founded by them in every state. It was not until the beginning of the nineteenth century that Portugal permitted foreign immigration, although foreigners, Swiss and Germans, did secure foothold. In 1860 there were forty-five German settlements, and these Germans are now Brazilian citizens. With the Italians they form the largest foreign population.

There is a bureau of immigration established. An immigrant station under government control is built on *Ilha das Flores* in the harbor of Rio, and here immigrants are given board and lodging until they are ready to

be conveyed to their chosen colony at the government's expense. Millions of dollars have been spent in the last six or seven years to increase the facilities and give encouragement for the reception of foreigners. A sanitary convention was recently called and agreements to avoid too severe quarantine regulations signed between Brazil and Argentine Republic, Uruguay and Paraguay. Since 1835 the number of colonists recorded as entering different parts in Brazil is nearly three millions. There are today three hundred and fifty thousand Brazilians of German parentage.

On the social life of Brazil, particularly in Rio de Janeiro, the French modes and fashions are grafted.

It can be said indeed that the future of Brazil depends upon foreign immigration. Every state in the Brazilian Union is now taking up methods of encouraging its steady movement, and is making wonderful concessions to the immigrant, even furnishing agricultural implements, tools, seeds and whatever he might need.

The various giant industries around which the towns and cities revolve are cotton-spinning and weaving, sugar-refining, brewing, match, paper, and hat manufacturing. The production of cotton goods takes the foremost place in the state of Rio de Janeiro. There are very many cotton mills, the facility afforded for water power in many states is so excellent. Yes, mining forms a world to itself. There is no one who does not know of the mines of Brazil. That the land is veined with gold! Our most abundant metal, perhaps, after gold, is copper, and there are silver, coal and iron and rich mines of diamonds and quarries of marble. With mining, agriculture takes the lead.

Plantations of coffee, sugar-cane, cotton, tobacco and rubber spread their wealth over the country, and the riches of the Brazilian forest woods are as famous as diamonds!

The regulations of all these industries and the labor pertaining to factories, railways, mines, navigation and plantation work is fairly well organized. There are never any "strikes." Brazil has developed no labor organizations. The working classes are well housed and rents and living are reasonable. The co-operative societies, what few there are, consist of credit and banking institutions and agricultural organizations.

The greatest advance in modern Brazil is, however, in education. There are public primary schools in every city and town and education is made compulsory in many of the states. The government is devoting every energy to encourage the education of the masses. Under the colonial rule no steps were taken in the direction of general education for the people; there were no schools except the Jesuit colleges and no libraries to speak of. The sons of the wealthy families were sent to Portugal to study law, medicine, divinity, art or engineering. The conditions changed somewhat when the Portuguese court was established at Rio Janeiro. Private schools were started and in 1827 a law passed for the establishment of public schools, but none were in fair working condition until 1854. The girls are educated in convents when they reach a certain age. Besides the public schools now in Brazil there are several universities, medical schools, polytechnic schools, mining schools and the quite recent School of Fine Arts in Rio de Janeiro. There is also the National Institute of Music, and there is a

public library in every leading city in Brazil. The Brazilian Academy of Letters has also been founded. This is composed of forty members and fosters the national language and literature.

Speaking of the literature of Brazil, it has a distinctive character of its own. It is very rich, very romantic and poetic. All the poets in Brazil cannot be named! It is true that in the early colonial days the Portuguese character with hardly a touch of Brazilian coloring was revealed; but in later times the Portuguese traces became dimmed. The first writers to develop the pure Brazilian character were the poets of the "Arcadia Ultra Marine," a literary society founded in the last part of the eighteenth century at Rio de Janeiro. This group of poets includes names celebrated in Brazilian history and among them were those who shared in the first strike for independence. It was from this minor school the first purely national and patriotic poetry of Brazil came forth full armed. There is in this poetic work much charm of imagery, harmony of diction, and beauty of versification. They were the forerunners of the school of romanticism. Brazil has to-day historians, scientists, novelists and poets of remarkable distinction. Silvio Romero is one of the greatest scholars. He is the author of the "History of Brazilian Literature." Jose Verissimo is one of the best literary critics, and Aluizio de Azevedo, the Brazilian Zola, as he is called, the most popular novelist. Other novelists of great power who must be mentioned are Machado de Assis, the president of the Brazilian Academy, and Graça Aranha.

Equally with poetry, music is also a passion of the nation. There is a

particular leaning towards the Italian school. The creator of the Brazilian opera, Gomes, ranks with Rossini, Verdi and Donizetti.

Rio de Janeiro has a magnificent theatre now in course of erection,

modeled after the Theatre Francaise. It is built of many colored marbles, is rich in design and material, very graceful and superb. It will be the most beautiful theatre in Latin-America when it is finished.

Varieties of the Dummy Director

BY DAVID FERGUSON IN SUCCESS MAGAZINE.

This is the opening portion of a lengthy article on the methods and functions of the dummy director, divided up, however, to a large number of smaller ones. After classifying the various kinds of direct in the writer proceeds to show how the U. S. ship-building Company was created by a dummy directorate.

THE dummy director is not a creation of high finance. He has existed a century or more, his birthplace being London. The old-fashioned dummy director, however, was a plain and simple factor, compared with his progeny of today. He was usually a nobleman who loaned his name to a corporation in exchange for a gift of a block of its stock. The presence of a titled name on the list of directors was an asset of consequence to a corporation in those days, it gave the stock-investing public the impression of dignity, stability, and conservatism; it helped greatly to sell shares. The dummy director in England is an inconsequential factor in the broad meaning of corporation life. Now-a-days, in London, he is derisively termed a "guinea pig." The regulation director's fee for attending a meeting, on the other side, is a guinea. There are men of considerable prominence who push their way into membership in as many directorates as possible, simply to collect the gold guineas for attending meetings. That the "guinea pig" is utterly worthless to the corporation

he is supposed to serve goes without saying.

Although not responsible for the creation of the dummy director, high finance has elaborated and varied his activities to fit its many and intricate needs, and this he has been made to do with such minute perfection that few men of really great prominence in the corporate life of the country can honestly deny the accusation of being dummies in one or more companies. One of the few notable exceptions is John D. Rockefeller. He restricts his activities, as far as serving in the directorates of corporations is concerned, to the Standard Oil Company, though he has greater personal interests in a larger number of companies than any other man in the United States.

Dummy directors have several forms of types, which may be classified in this way:

1.—The professional dummy — usually a clerk in the office of a firm of great lawyers or an employee of a company which makes a specialty of organizing corporations, getting them chartered, electing temporary officers, fixing the capital stock, ar-

ranging for hoed issues, and often performing a number of services which the men actually behind a company would not themselves do under any circumstances, because of their questionable nature.

2.—The man of large wealth with an income much in excess of his expenditures, whose one anxiety is to safely and profitably invest his surplus money. He is usually a man of illustrious name and widely advertised respectability. He seeks membership in the directorates of important corporations, not with the idea of actively participating in their management, but generally with the simple purpose of keeping in intimate and immediate touch with happenings in the financial world, by associating with the very men who create the happenings. Such associations facilitate his own investments and tend to safeguard them. Over the directors' table he gets first hand and accurate information concerning very nearly everything of consequence going on in the empire of dollars. If he be a speculator in the stock market, as well as an investor, he is in a fair position to know the underlying plans of this clique or that group of financiers. In other words, he is "on the inside." His relations, therefore, with the corporations of which he is a director are purely selfish. Such a man is politely referred to by his active associates on the board as an honorary director. He is merely a human fresco for adorning the directorate. His name looks well in the advertisements of the company and in its literature. He generally has a lofty social position, something of a reputation as a philanthropist,

and would resent with genuine horror an imputation that he is a dummy director.

3.—The publicist, statesman, distinguished officeholder who harkens his name and fame for a stock bonus in a newly organized company. This type is rapidly going out of fashion. Practically only fly-by-night or get-rich-quick corporations now resort to this artifice to give a glamour or stability to their affairs. Experience has shown both parties to the transaction its dangers and futility. Sensible investors are no longer gulled into parting with their money by tricks of that kind, and the credulous class—those who are never happy unless nibbling at the flimsiest kind of bait—can be cowed by easier and less expensive tactics.

4.—Another man's dummy. He merely carries out the instructions of his principal. All of his activities in a corporation are dictated by his employer. Sometimes he is a private secretary or confidential clerk; in other cases a lawyer of high repute. This type is increasing, its growth being due to the steady concentration of enormous interests in the control of a few men. Dummies of this class are the watchdogs of their masters. Many of them simply report what is going on, and, in consequence, are nothing more than negative figures in the boards of which they are members.

5.—The non-stock-owning dummy. He is often a man of affairs, solid and substantial, with some claim to distinction. He enters a directorate on a certificate of shares transferred to him by a friend or associate. He is therefore qualified as a director not by his own right, but at the pleasure of another. According to the ethics of business all of his acts

as a director should harmonize with the wishes of the man who places him in the board. His independence of judgment is curtailed if not totally eliminated. Unless he wishes to expose himself to the charge of disloyalty he must sacrifice his own opinions should they clash with the ideas of the actual owner of the shares nominally transferred to him.

There are other forms of dummies, off-shoots of the principal types just enumerated. It may be asked, if there are so many dummy directors, who are the bona fide directors? As a matter of fact there are very few modern corporations of importance or magnitude which do not contain dummies in their directorates. This is not altogether due to the men themselves; it is a consequence of the new system of corporate management. Almost without exception every great corporation is actually controlled by a small group or clique of men, ranging from three to six in number. The last-named figure is seldom exceeded. Many directorates have thirty, forty, and some as high as fifty members. Boards so constituted are unwieldy. They were never intended for anything but ornamental purposes, and they are never permitted to go beyond their destined limits. Committees and sub-committees do all the actual work. If the full board is so numerically cumbersome that large executive and finance committees have to be appointed to satisfy the ambitions of ten or a dozen men, these committees are in turn reduced to comparative impotency by the creation of sub-committees consisting of three or four men. The full committees simply ratify what has been accomplished by the sub-committees, and, later on, the board of

directors perfunctorily ratify what has already been ratified.

The type which has worked the largest amount of evil to the public is the professional dummy. His services are demanded when the capital stock of a corporation is to be outrageously watered. He has figured potently but inconspicuously in the organization of a large percentage of the mammoth industrial combinations or trusts. His uses were loudly set forth in the exposure of the methods employed to float the United States Shipbuilding Company, now defunct. In the report of the receiver of that corporation, written by former United States Senator James Smith, considerable attention is given to directors of that kind.

The Corporation Trust Company, of New Jersey, a concern which makes a specialty of chartering and organizing new companies, attended upon the birth of the Shipbuilding Company and served as a screen for those who actually created it. The company was incorporated June 17, 1902, the corporators being Howard K. Wood, Horace S. Gould, and Kenneth K. McLaren. These three were dummies, all being employed by the Corporation Trust Company and having no real interest in the Shipbuilding Company. The capital stock was \$3,000, the dummy corporators subscribing for all of the shares.

Seven days later the corporators held their first meeting for the election of directors. The meeting was held in the office of the Corporation Trust Company. Three directors were elected: Frederick K. Seward, Raymond Newman, and Louis B. Dailey. These three were all young clerks employed by the Corporation

Trust Company. They knew nothing about the shipbuilding business. On the same day the three young dummy directors held a meeting and proceeded to organize the Shipbuilding Company by the election of officers. Newman was elected president, Dailey vice-president, and Seward secretary and treasurer. They went through the form of casting and counting ballots and entering an account of the proceedings in a minute book.

After the election of officers the meeting was continued and the real business taken up. A proposition covering many typewritten pages was gravely submitted to the three dummy officers and directors, offering to sell the Shipbuilding Company eight shipyards and one steel company at an aggregate price of \$71,000,000, divided in this way: \$16,000,000 in first mortgage bonds, \$10,000,000 in second mortgage bonds, \$30,000,000 in preferred stock, and \$25,000,000 in common stock.

This was the situation: a \$3,000 company had been incorporated by three dummies; the dummy corporators had selected three dummy directors; they in turn had elected themselves officers of the company and were going through the farce of considering the advisability of purchasing for \$71,000,000 eight great shipbuilding plants and one of the most important steel making plants in the country, the Bethlehem Company.

These dummies adopted a resolution accepting the \$71,000,000 offer and adopted another resolution recommending that the capital stock of the Shipbuilding Company be in-

creased from \$3,000 to \$45,000,000, and a third resolution providing for two bond issues, the first of \$16,000,000 and the second of \$10,000,000. In this easy way the \$71,000,000 of securities were created.

To make the whole farce regular in the eye of the law it was necessary to submit these matters to the stockholders of the \$3,000 Shipbuilding Company. Here again is displayed the dubious advantage of using dummies. The three dummy corporators named above were the chief stockholders. The three dummy directors and officers held, nominally, merely one share each. All six were working at desks in the same room.

It was not necessary to send out a formal call to the stockholders fixing a distant date for the meeting. In the afternoon of that same day, June 24, 1902, the stockholders' meeting was held, the six dummies solemnly adopting a resolution which stated that the action previously taken by the board of directors "be, and the same hereby is, in all respects, approved, ratified, and confirmed, and that the same be in all respects adopted as the action of the stockholders of this company."

The six dummies continued as officers, directors, and stockholders of the Shipbuilding Company until August 5, 1902—about six weeks. On that day the eight shipyards and the steel plant became the property of the Shipbuilding Company, the dummies disappeared, and the men actually behind the combination came to the surface and took charge of its affairs.

How London Hustles to Work

BY J. A. MIDDLETON IN FRANKS'S MAGAZINE (ENGLISH)

London is ever growing and stretching out its octopus-like branches to all parts of the country, but the business centres tend to stagnate. Ever increasing crowds throng into the city in the morning, and the problem of handling these vast masses of humanity is becoming daily more difficult.

HOW is the great human tide of workers borne to the city?

The business man or woman living on the outskirts of London, or in suburbia, has generally a choice of several routes and of various means of traveling. He may come to work, by railway, omnibus, motor bus, tube, electric railway, tramway, cab, bicycle, or even by river. He may vary his traveling according to inclination and weather. Wet mornings may mean the train or twopenny tube, fine mornings a blow on the top of a bus, a cycle ride, or even a tramp on foot to the office.

The railways run almost countless trains for his benefit to the London terminus between eight and ten every morning, but these only cope with a comparatively small portion of the great rush to the city.

It would give a foreigner a good idea of the immensity of London to see the streams of foot-passengers pouring from the crowded morning trains at the central stations, covering the sidewalks and pavements, and crossing the bridges in a never-ending throng; to watch the buses rattle along, filled, inside and out, with workers; to see the tubes and undergrounds discharge their flood of passengers every few minutes to swell the turmoil of the streets, and the laden trams and motor buses bringing in their loads from every point.

London is a city of strange sights, and the morning rush to the city is

one of them. All the familiar types are there—the jaunty bank clerk, with his well-brushed hat; the smart shopgirl, whose knowledge of what is worn keeps her well in touch with Dame Fashion; the shabby, ill-paid Fleet Street hack; the complacent factory-worker, whose innocent string of neck pearls has been such a cause of offence to her feminine critics; the worried editor, devouring his morning paper; the stolid, frock-coated business man, with one eye on a column of the Financial Times and another on his watch.

It is curious to notice the difference between a carriage-full of such passengers going to and returning from their work. At nine in the morning they look fresh and spruce, with well-black boots and clean linen, and an air of having just breakfasted wisely and well, ready to chat, and interested in the morning's news, and the prospects of the day's weather.

Take a similar crowd going home from work—fagged, faded, and weary, with dusty clothing, muddy boots, and half-shut eyes, some dosing under the spell of the gentle rocking of the train, an all looking hored and sleepy. Dinner will perhaps revive them, but they mostly look as if they wanted it very badly.

The twopenny tube, running from Shepherd's Bush to the Bank, is a great convenience to the thousands of workers who live near its route. Before it was opened, the buses, es-

pecially on wet mornings, were crowded, inside and out, between 8.30 and 11; and after 5 p.m. it was very difficult to secure a seat in one. The tube is quick and reliable, but it is not an unmixled blessing owing to the over-crowding of the lifts and cars. The fare of 2d for the whole journey goes against it for very short distances, but on the whole it is a very favorite method of getting to the city, for time-saving is an enormous consideration in the rush to business. Everybody must sympathize with the punctual man forced to be late for business owing to a yellow fog and overdue train, a street block or a bus accident. The tube has proved its immense value as a time-saver. A man living at Shepherd's Bush before its advent had to rely on the Underground or the omnibus, and in either case his return fare was eightpence per diem.

The journey by omnibus occupied nearly an hour, while the tube takes twenty minutes—a saving of fourpence a day in money and over half-an-hour in time. Half-an-hour in the morning saved to a busy man means a good deal. He can do a lot in half-an-hour—that is to say, if he is not a sluggard who prefers to spend it lazily in bed or dawdle longer over breakfast. Half-an-hour spent in physical gymnastics will help to keep him fit and in good condition. Half-an-hour's work in the garden every morning will show good results at the end of the week. Half-an-hour's study of any particular subject he happens to be taking up will do wonders. Half-an-hour's swim will brace up the system, and half-an-hour's stroll round and round the garden paths, with a favorite briar pipe, watching the flowers grow

and the early seeds shooting up, is enough to put a man into a good mood—the very best of moods—to begin the day with.

Between the hours of 5.20 and 12.30 at night 377 trains leave Bank Station for Shepherd's Bush, and from 8.10 till 9.46 and 4.40 to 7.06 trains run at an interval of two minutes for the special convenience of business people, so there are no long waits at the stations.

It is not generally known that the tunnel undergoes a complete airing every night. After the cessation of traffic a huge fan, 15 feet high, is set working for three hours. This creates a great gale which blows from one end of the tunnel to the other, driving in fresh blasts of air to freshen the atmosphere, and relieve the stuffiness.

The motor bus bids fair to become the monarch of the road, for before very long the horse omnibus will be as dead as the dodo, and nobody will regret it. When that glady time comes, the sickening sights of suffering among horses which we now see daily will be at an end, and no longer will a sympathiser with the "patient people" have cause to sigh—

From hush time of the dawning
Till another dawn is here,
Through summer sun and winter snow,

Be weather dark or clear:
With wheels upon the road, and wheels

On all this London ground,
I hear the patient people go their long, long round.

Nearly 400 motor omnibuses are already running, and over 1,000 more are on order for London alone. Their advantages over horse omnibuses and

trams are obvious. They hold thirty-four passengers as against twenty-six, and if they were in universal use the traffic would be conducted with about three-fourths of the number of omnibuses now running. Again, their routes can at any time be diversified, and not restricted to any particular direction, and their speed makes them popular as time-savers, no less than fifty per cent., for instance, being saved in time on the journey from Peckham to Oxford Circus. The story is told of an elderly gentleman, going from Westminster Bridge to Peckham, who was asked by a friend if he was going by tram-car. "No," he replied, "I am in a hurry, so I shall motor-bustle." So he motor-bustled, and at the same time coined a new word.

When Gurney experimented long ago with a steam omnibus, Tom Hood wrote the following humorous lines about it, little thinking how remarkably apt his lines would be to the motor 'bus of to-day:

Instead of journeys, people now
May go upon a Gurney,
With steam to do the horse's work
By power of attorney;
Though with a loud it may explode,
And you may all be undone,
And find you're going up to Heaven
Instead of up to London.

The enormous growth of the population in the northwest, northeast, and eastern part of the metropolis, and the necessity for more adequate means of carrying merchandise from the docks to the railway stations, are reasons which have led to the projection of yet another new electric railway, this time between Feltham and West Ham, thirty-five miles in length, to be called the "London

Outer Circle Railway." At least £5,000,000 will have to be spent before operations are begun, but the new line will link up about twenty-five important places in one direct line, as well as providing accommodation, and especially cheap fares, for workmen.

One real grievance of the traveler during busy hours is the horrible overcrowding of trains, tubes, and trams, resulting in strap-hanging and other evils. Since its electrification the District Railway has turned its carriages into cars, each containing forty-eight seats, with seventy-two straps for those who stand. When the cars are full, imagine what would happen in case of an accident—the people wedged together like sardines in a box, and unable to move! Many passengers, joining the Underground or the Tube on the journey have to stand all the way to the city as a matter of course, and the Underground passengers are sometimes carried beyond their stations because they cannot manage to leave the carriage in time. In one carriage a newspaper representative counted 25 persons standing up, and other carriages were even fuller. No wonder a caricature in an American paper represents a pair of strap-hangers—a monkey and a citizen—in one of London's underground railways, the monkey saying to the man, "Evolution hasn't done much for you after all."

The busiest centre of London is the space near the Bank of England, Royal Exchange and Mansion House. The night population of the city is 27,000, but a million and a quarter pour into it during the day. The Bank is the Mecca of the omnibus, for at the busiest time in the day no

fewer than 642 'buses pass it in the short space of an hour. A census of all the vehicles, including cabs, carriages, omnibuses, barrows, and cycles, passing the Bank in one hour was lately taken, when it was found that the smallest number of vehicles in one hour of a typical day was 1,703—the highest number, 2,730. The total number during twelve hours reached the huge total of 27,523.

What a contrast between the city on a busy week-day and the silent city that takes its repose while London sleeps, and its rest on the Sabbath.

The London worker, going his patient daily round, grows to look upon the trains and 'buses as his own particular property. He learns 'bus etiquette and tube manners, and lays them both to heart. To his credit he said he is ever willing, as a rule, to yield his place in the cars to a member of the weaker sex, and hang to a strap for the rest of the journey, trying to read his newspaper as he wobbles along. Apropos of courtesy on the Underground Rail-

way, the Rev. Arthur Jepson tells an amusing story:

"I was traveling in an overcrowded compartment, third class, on the Underground, some time ago," he writes, "when a person who I thought was a lady got in. I stood up and offered my seat to her."

"No," she screamed, loudly enough for everyone in the carriage (five compartments) to hear—"No, I will not take your seat. It is men like you with your sally courtesies and unwanted civilities who try to keep women as your toys, and playthings. No, I will not take your seat; I can stand as well as any man."

Other cases, alas! are on record where courtesy to women in trains has met with a rebuff; but in spite of this, let those who say that English chivalry is dead, travel any morning from Shepherd's Bush to the Bank, between 8 to 10 p.m., and they will have reason to say it is not only alive, but very flourishing indeed among the busy workers of London.

Heroes are not made in a moment, however it may seem. Courage, self-sacrifice, lofty purposes, strength of will, and power of endurance, are a growth, a slow growth of years, and whoever cultivates them becomes a heroic character, noble and worth while, quite independent of any chance to manifest the fact abroad.

The Influence of the Mind on Health

BY DR. GULICK IN WORDS OF WORK

In the course of a long article written for the purpose of teaching the lesson of how to attain the maximum efficiency of work and the greatest enjoyment in life the writer attempts to show how nearly the state of one's health is influenced by the attitude of the mind. He points out several facts of the most vital importance.

PSYCHOLOGISTS are learning nowadays that it is impossible to treat the mind and the body as if they were really distinct. They have discovered that the two are so closely bound up together that nothing can affect one without affecting the other in a greater or less degree. Our feelings, our emotional experiences, used to be treated as "mental phenomena." We still keep the phrase, "states of mind." But we might just as accurately say "states of body." There is no such thing as an emotion without its bodily expression.

A man gets angry. His breath comes short, his heart beats violently, the blood rushes to his face, his hands clench, his limbs may even quiver and grow tense. If you could subtract all these symptoms from a fit of anger, it is hard to say how much of the fit would still remain. They are essential parts of that "state of mind." An emotion may involve all the functions of the body—circulation, blood pressure, muscular tension, respiration, glandular activities, and the rest.

Even ordinary thinking has its bodily effects, though they are not often brought to our attention. If I put an exceedingly delicate thermometer in each hand, and then give my attention to my right hand with all the concentration of mind I can muster, it will soon begin to grow warmer than my left. Somehow or other the blood circulation in it has

been increased; even the diameter of it is greater, and all the tissue changes in it are going on at a higher speed.

The scientist's explanation of this is interesting. During all the history of man's evolution from a lower form, the act of thinking, he says, has normally been connected with some activity of the body. Men thought because they were going to act. Thought had its origin for the sake of action. The association of the two became ingrained, and even now when we think in such a way that some part of the body is concerned, the automatic nerve centres begin to increase the blood supply to that part so that it may be ready for action.

A man thinks of running. The nerve centres send more blood to his legs; all the muscles used in running get an increased supply of it. A man is hungry. He thinks of a good, juicy beefsteak. Immediately more blood is sent to the muscles of mastication and to the salivary glands. Saliva is poured into the mouth, and even the walls of the stomach begin to secrete gastric juice, and to prepare themselves for the digestion of the hypothetical dinner.

Now this fact has a tremendously practical application. Suppose that a man has an uneasy sensation in the locality of his heart which is due, let us say, to overeating or to gas in the stomach. But he begins to think that he has heart disease. He reads

the advertisements in the newspapers to learn about the symptoms, and he learns about them.

"A sense of constriction about the chest." Yes, that is his difficulty exactly! "Slight pain on deep breathing, palpitation of the heart after vigorous exercise"—it is evidently a serious case! He begins to worry about it. Worry interferes with his sleep. It interferes also with his digestion; he does not get well nourished.

Bad sleep and bad digestion make him worse and worse. Each one aggravates the other. And all the time he keeps thinking about his heart. In the end, his thinking actually affects its condition, until he succeeds in fastening on himself a functional difficulty which may be a really serious and permanent trouble—and the whole of it can be traced back to his crooked thinking about that little pain in his chest.

This is no parable. It is the records of hundreds of actual cases. Every physician comes into contact with them.

A man who keeps worrying about the state of his liver will almost be sure to have trouble with it eventually. Indigestion can be brought on in the same way, and a long list of other ailments.

The nervous system has adapted itself to the increasing complexity of modern life. It has grown more sensitive. It has become more delicate in its adjustments. This lets us do a higher grade of work when we are at our best; but the machinery gets out of order more easily. The role that the psychic part of us plays in the government of the rest is increasing all the time in importance.

That is why worry is such a tre-

mendously expensive indulgence. Worry is nothing but a diluted, dribbling fear, long-drawn out; and its effects on the organism are of the same kind only not so sudden.

Yet no kind of psychic activity can be so persistently followed. A fit of anger exhausts itself in a short time. Concentrated intellectual work reaches the fatigue point after a few hours. But worry grows by what it feeds on. It increases in proportion as it gets expression. You can worry more and worry harder on the fourth day than you could on the first. Every normal activity is strangled by it, and it is only a question of time before the man who worries hard enough will be sick or unbalanced.

But there is another side to the situation. If states of mind can hinder a man's efficiency, they can also help it. Positive and healthy emotions bring increased power. The simplest food taken when we are worried will often cause indigestion; whereas a man can go to a banquet and pile in raw clams, oxtail soup, roast beef, mushrooms, veal, caviar, roast duck, mackereles, rouffort, and coffee, have a superb time, and never feel any ill effects. Not everything depends on the state of mind; but much does.

There is certainly plenty of foolish philosophy connected with Christian Science, mental healing, and other kindred movements; but thousands of people have been tremendously benefitted by them. This is largely due to the emphasis they all lay upon the healthful emotions, upon the positive, the believing, the buoyant and hopeful attitude toward one's self and one's troubles.

To resolve to play the game and

to play it for all it is worth, is the best start a man can take toward setting himself right. I know people who are really out of order, whose heart or lungs are really crippled, but who make the best of it, who have learned just what they can do and what they cannot do. They don't think about their troubles, and no one would even know that anything was wrong with them. They lead efficient lives. They accomplish more than most people in perfect health.

I know other men who have nothing serious the matter with them, but who fail to be efficient just because they are always turning their introspective microscope upon their condition. They are troubled about everything they eat and wonder whether it will hurt them or not. They suspect each glass of water or milk to contain injurious microbes. They don't eat strawberries because they're afraid appendicitis may lurk there. They don't drink water at meals because they're been told that it causes indigestion. They never dare let go of themselves and have a good time for fear they may overdo. The real root of all their misery is their state of mind. If they only knew how to get at it, they could become as well off as the best of us.

But one great difficulty with people who worry is that they don't know how to get at it. They know that it does them harm, and they make an earnest resolution to stop it. There's no use in that. Nobody ever stopped worrying by making good resolutions. It's contrary to the first principles of psychology; the mind doesn't work that way.

The more a man braces himself against worry, the more worry will

get its grip on him. He even begins to worry lest he is going to worry. He worries over his good resolutions and worries because he is not living up to them. Emotions do not have handles that can be got hold of by main strength—by an act of the will. You can't attack them subjectively.

A man who is in the dumps can say, "Come now, brace up! I will be cheerful!" but that will not make him so. What he can do and do successfully, is to make himself act the way a cheerful man would act, to walk and talk the way a cheerful man would walk and talk, and to eat what a cheerful man would eat, and after a time the emotion slips into line with his assumed attitude. He actually becomes what he has been pretending to be.

We can get at worry in exactly the same manner. We can make ourselves do certain specific things. This is an objective, not a subjective method. See that all the hours of the day are so full of interesting and healthful occupations that there is no chance for worry to stick its nose in.

Exchanging symptoms is a vicious pastime. It always makes the symptoms themselves worse; and it is contagious—as it gives them to other people by suggestion. Nothing could be more demoralizing than the way invalids and semi-invalids and chronic complainers get together day after day to talk over how they feel. Crap-shooting would be a more uplifting occupation. If such cases ever get cured, it is in spite of themselves.

Every man should be provided with his own smoke consumer. It is a menace to the community to have him pouring out clouds of black smoke over his unoffending friends. They

will not thank him for it. And the soot may stick to them.

Every man ought to have a hobby of some kind or other, one which demands a certain amount of physical work, so that when he sets through his business there will be something interesting for him to do, something which he can talk and think about with pleasure. The business of the following day will go more smoothly, more successfully, if it is forgotten for a while. When a man is tired there's no use in keeping his head

at work over business. It is the old difficulty of the box that is never unlit.

The man who will persistently play well is doing something worth while; he is taking the most sensible and practical method of really getting there. He can get happy if he doesn't feel so. He can stand up straight, look the world in the face, breathe deeply. He can make up his mind to tell a funny story at the table even if it kills him.

It won't kill him.

A Recipe for Success

IF you are somewhat vaguely flitting out on a career and do not know how to make the most of it, study some such set of rules as those which the famous Lord Russell wrote down for the guidance of his son—a younger member of the bar:

1. Begin each day's work with a memo. of what is to be done, in order of urgency.
2. Do one thing only at a time.
3. In any business interviews note in your diary or in your entries the substance of what takes place—for corroboration in any future difficulty.
4. Arrange any ease, whether for brief or for your own judgment, in the order of time.
5. Be scrupulously exact down to the smallest item in money matters, etc., in your account of them.
6. Be careful to keep your papers in a neat and orderly fashion.
7. There is no need to confess ignorance to a client, but never be above asking for advice from those competent to give it in any matter of doubt, and never affect to understand when you do not understand thoroughly.
8. Get to the bottom of any affair intrusted to you—even the simplest—and to each piece of work as if you were a tradesman turning out a best sample of his manufacture by which he wishes to be judged.
9. Do not be content with being merely an expert master of form and detail, but strive to be a lawyer.
10. Always be straightforward and sincere.

Submarine Signalling on the Ocean

BY FREDERICK A. TALBOT

Experiments have been carried on for many years looking towards the invention of some means of submarine communication between vessels and lightships, buoys, etc. At last success has crowned the efforts of the inventors. The results will be discussed briefly in a coming issue.

FOR about fifty years scientists have been trying to discover a more efficient means of warning vessels of their proximity to dangerous coasts or rocks. The existing methods by means of sirens, gun-cotton detonations, and bells, with which lightships and lighthouses are provided, cannot be depended upon in thick weather, their sounds being inaudible until the vessel has approached very close to the danger zone. Bizzards and fogs act as impenetrable blankets which the warning sounds cannot penetrate to a very great distance.

The high conductivity of water for the transmission of sound waves has been known for nearly a century, since two well-known scientists who carried out a series of experiments upon these lines on Lake Geneva.

No one, however, had thought of turning the vessel itself into the medium for collecting the sounds dispersed through the water. It remained for an American physicist, Professor Lucien J. Blake, now at the Kansas University, to make this important advance.

Professor Blake's experiments were interrupted by the outbreak of the Spanish-American War, and unfortunately they were never resumed owing to the pressure of other duties. But while this war was going on, and the people of New York, Boston, and other sea-coast cities on the Atlantic were anxious concerning an unexpected swoop of Admiral

Cervera's squadron upon their exposed positions, Mr. A. J. Mundy, a young scientist of Boston, conceived the idea of utilizing sound waves through water with a view to lessening of the approach of the Spanish warships in the event of their attempting to make an onslaught in those quarters. Mr. Mundy communicated with Professor Elihu Gray, of Chicago, the famous physicist, who had been engaged unsuccessfully in a bitter legal dispute with Professor Bell concerning the invention of the speaking-telephone, and in 1898 Professor Gray co-operated with Mr. Mundy at Boston in further experiments. For four years they worked steadily together.

For the purposes of the experiments a large flat-bottomed, square-ended barge or scow was constructed and appropriately christened *San Bell*. In the centre of the craft is a well hole, through which the bell is lowered to a depth of twenty feet into the water. This bell is electrically operated, the barge having a small dynamo driven by a petrol engine for the generation of the requisite electrical energy. There was also a well-equipped laboratory, in which experiments were conducted in a small tank. Mr. Mundy succeeded in establishing an important point which subsequently proved to be the crux of the problem with which they were wrestling. He discovered that when he placed a tumbler filled with a certain solution, and containing a

sensitive microphone, in an empty kettle, so that the tumbler was in contact with the side of the latter, and floated this in a small tank at one end, the sound of a bell rung beneath the water at the other end of the tank could be distinctly heard by the microphone, thereby showing that the tumbler with its solution, by being in contact with the inside of the kettle, arrested the sound waves collected by the kettle itself, and communicated them through the receiver. When, however, the microphone was removed from the tumbler and placed against the kettle, the sounds, though heard, were very indistinct. From this simple experiment it was evident that the peculiar solution within the tumbler, and its position, played an important part in collecting the sounds.

With regard to the bells themselves, for distributing the warning signals, considerable difficulty was experienced. At first bells of the type employed for chimneys were utilized. They were electrically operated, the electro-magnets being carried in a water-tight chamber, and the whole being submerged at the requisite point with an electric cable communicating between the bell and the station on shore. The bell which gave the best results on shore was quite unsuitable for submarine work, and repeated tests proved that the most satisfactory bell was one with a thick lip or "sound bowl," and having a high musical note—such a tone, though useless in the air, having the best carrying quality under water. One of these bells weighing one thousand pounds was submitted to a most exacting test, being kept for a whole year on an exposed portion of the Atlantic coast at a depth

of 60 feet, and connected with the shore station by a length of cable measuring 1,500 feet. It was quite successful, but later the investigators were able to obtain a smaller and much lighter bell, with which much better results have been accomplished, the notes being discernible over a distance of sixteen miles.

On the verge of success, a check was suffered through the unfortunate death of Elihu Gray. The Submarine Signal Company resolved to build and operate three typical stations devoted to the warning of navigation—a lightship, a lighthouse, and a bell-buoy, while an elaborate system was put into operation between New York and Boston. This was the most severe trial that could have been imposed upon the invention, for it was to be carried out for a year, and various means of operating the bells were employed. A daily log was kept for presentation to the authorities of the Lighthouse Board when the invention was brought before them for adoption. The whole of these numerous stations were installed and maintained at the expense of the company. In the case of the lighthouse equipment, the bell was rung by means of electrical energy; for the lightship installation, compressed air, steam, and hydraulic power were requisitioned; while in the case of the bell-buoy the motion of the waves gave the power.

A line of steamers plying between Boston and New York were fitted with the apparatus, including receivers and transmitters. Bells fitted at four lightships along the coast followed by these steamers were ordered to be rung for an hour before the time at which the vessels normally

two ports occupying some twenty hours. The equipment on board the vessel is very simple. From the tank connected to the interior of the hull below the water line, containing the microphone, a wire extends to the wheelhouse. Here there is a receiver similar to that of the ordinary telephone, attached to an indicator which informs the navigator whether the warning sounds are proceeding from the starboard or port quarter, an installation being provided on either side for this purpose. A little difficulty was experienced in connection with the correct position of the receiver tanks containing the microphone. It was found that if the receptacles were filled with the sea-water, and that if the microphones were tuned to the recognition of sounds of high pitch, and not those of low vibration, the tones of the bell were heard quite distinctly and were not mingled with the ship's noises" (sounds produced on the vessel itself), which appeared to pass along the hull of the boat rather than through the microphone apparatus.

In locating the sounds the mariner applies the receiver to his ear, say of the starboard apparatus. By means of a switch he next brings the port instrument into play and he can then determine by the greater intensity of the volume of the tones heard, upon which side the bell is placed. When the vessel is proceeding directly towards the bell the sounds from the two apparatus sound exactly alike, but the slightest swerving round of the boat to one side results in a distinct deviation in the volume of intensity.

The system is now being adopted extensively. The Canadian Government was the first to prove its importance. In the fore-peaks of each of two vessels a tank was installed filled with sea-water, and with a bell suspended in it. In the cabin of the Canadian Minister, the late Hon. Mr. Prefontaine, who was present, a special receiver was installed. The vessels were approaching each other at a speed of fourteen knots. When three miles apart, at three o'clock in the morning, the bell on the approaching steamer was rung by hand, and although the Minister had never before heard the peculiar sounds transmitted through the water, he immediately detected them. This convinced him that the system was not only of great value in warning a ship of its approach to a dangerous coast, but could be employed by vessels for warning one another in the open sea, and thus averting collision. The latest vessels of the Cunard and White Star lines are fitted with it. The Mersey Docks and Harbor Board have decided to install the system upon the Northwestern lightship at the bar of the river, owing to the menace that is offered to navigation in the estuary during foggy weather, when the traffic becomes thickly congested. The Trinity House authorities are also experimenting with the apparatus upon the North Goodwin Sands Lightship. Already the signals transmitted from this station have been distinguished over a distance of five or six miles. The extension of the signalling apparatus to naval purposes, also—as for discerning the approach of a submarine vessel—may be regarded as only a matter of time.

Matrimonial Swindles

BY G. SIDNEY PATENOSTER IN GRAND MAGAZINE

Remembering the facilities of brazen impostors, the matrimonial agent sets to work in place upon them, and thus he swindles tolerably well, is satisfied to be so, continues to brazen some of his methods are here exposed. Naturally, they vary, but the aim is always the same.

HE—or she, for there are females as well as male matrimonial agents—is almost invariably a liar, and not infrequently a thief. There are, no doubt, exceptions, but the exceptions are few, and the matrimonial agents who grow true to type many.

Possibly everyone who has started in business as a matrimonial agent has done so with the intention of supplying another example of the exception. He can easily find an excuse for his existence. He may conscientiously believe that there are many persons of both sexes whose social environment is such that they lack the opportunity for meeting the one desirable life-partner. If, then, he can bring about an introduction between two such parties he will prove a benefactor to humanity. But he is not a philanthropist, and as he proposes to live upon his beneficent work he is compelled by self-preservation to charge fees!

He may start business in a very modest way. He probably has a few circulars printed, and addressing them "To the housemaid," drops them himself into the letter boxes of West End residences. He will apologize sofly for the liberty he has taken, and declaring that he has received instructions from a number of gentlemen clients to arrange matrimony for them, he asks the housemaid to communicate her requirements to him, since his clientele is so extensive and varied that he has not the slightest hesitation in assuring her that he will at once be able to provide her with a desirable hus-

band. He says nothing about fees in this preliminary communication. It is no use attempting to pluck the pigeon until it is safely in the trap.

But not the humble housemaid alone is the recipient of such unsolicited requests. Here is another specimen of the brazen effrontery with which the matrimonial agent will tout for clients in higher social spheres than the servants' hall:

"Dear Madam: I have not had the pleasure of hearing from you in answer to my letter of the 9th inst. Might I ask you if you would be disposed to grant an interview to the gentleman I mentioned to you in my letter? I have heard from him and he expresses a desire to see you. I should myself also be glad if you would grant me an interview, as I have received a visit from a gentleman from Yorkshire who has a nice estate and a large yearly income, and I should like to introduce him to your notice. I shall be in the neighborhood of Oxford street next week and should be pleased to have the privilege of calling at —."

The young lady who received this epistle had never heard of the writer before, and she replied to the effect that the matrimonial agent must be under some misapprehension as to her identity. Under the circumstances it might be supposed that even a matrimonial agent might have the grace to apologize. Nothing of the kind. He renews his request for an interview. He reiterates his statements about the desirable gentlemen who are on his books, and he enters into particulars regarding his methods of

carrying on business. There is only one method of dealing with such persistent insolence — to tell him that any further repetition of his offence will result in his chastisement with a hunting-crop, and the matrimonial agent, having a very sincere respect for his own skin, then yields to the only form of persuasion which he thoroughly comprehends.

But tooting for clients in this personal manner is too slow a method to be adopted by the really up-to-date marriage broker. Are not the advertising columns of the daily, the evening and the weekly press at his disposal? He makes full use of them, and so modest and retiring of disposition is he that he rarely inserts his advertisements in his own name. He prefers to dangle an attractive bait before the eyes of the matrimonially inclined, while remaining himself discreetly in the background.

"MATRIMONY.—Young lady, eighteen, big blue eyes, hair of the fashionable hue, considered beautiful, of good country family, fond of hunting, possessed of £10,000 in her own right wishes to make the acquaintance of a young gentleman with similar tastes and possession of adequate means. Address, etc."

What an attractive fly is here cast upon the waters to tickle the appetite of the matrimonial trout; £10,000, and hair of the fashionable shade thrown in. And the trout rise to the bait. One such advertisement inserted in a country paper produced, to my knowledge, no fewer than fifty-seven answers. Of course the matrimonial agent does not hook all the fish which rise to the bait. Three-fourths of those who respond to the advertisement pursue the matrimonial prize no further when they learn that before their applications can be placed before the eighteen-year-old

damsel with the hair of the fashionable hue, they have to forward a guinea to the agent whose client she is. Those who part with their cash are asked to forward full particulars of themselves with photographs. They do so and await the result. It is not long in coming. They learn through the agent that they have not been successful, and they learn also that if they will only forward another four guineas they will be placed upon the agent's books and thereby obtain the advantage of introductions to the large number of matrimonial bargains which he is empowered to offer to the public.

The matrimonial agent does not always want so big a sum as five guineas. Sometimes he is contented with a modest preliminary fee of five shillings as the price of one introduction, and the full advantages of his agency with an unlimited number of introductions may be obtained for a guinea. But whatever his charge his stock makes a good show in the bulk. It is of various patterns and assorted sizes. The females have a wide age-range. From the damsel of seventeen to the giddy young widow of five-and-thirty—there are few of the matrimonial agent's clients who will confess to more than five-and-thirty summers—all ages are represented. Their heights and weights vary considerably more than their tempers, which appear to be uniformly sweet. Their eyes and hair are of all the colors of the rainbow. Their tastes are agreeably refined and pleasingly domestic. Some of them are acknowledged beauties, and there is not one amongst them who is not "considered good-looking." It is true that in the descriptions given of them the matrimonial agent does not insist upon the blemishes. He does not put the speckled sides of the apples he exhib-

its in his shop window uppermost, and if there are any one-eyed, stone-deaf, or partially paralyzed maidens amongst his assortment they may possibly be domestically inclined, or even be considered good-looking from a carefully selected point of view.

Besides, the speckled apples in the matrimonial agent's stock are usually blessed with compensations. Beauty and youth do not need gilding, but the one-eyed lady will perchance pass muster if she has a golden shade to hide her defect. So the matrimonial agent carefully apportions his gold leaf. The incomes of his clients are carefully graduated in proportion to the years they admit. Even a bald lady of sixty may be considered a bargain if she brings a thousand pounds for each of her years into settlement. She will never be lacking funds to provide for suit wherewith to repay the ravages of time among her tresses.

On the other side of the ledger the matrimonial agent has just as extensive an assortment of male bargains to whet the matrimonial appetites of the feminine clients. Tall and short, dark and fair, mustached and bearded, young and old, rich and poor, may be found amongst them. One quality they all possess in common—there is not a man who is not a "gentleman" amongst them, from the royal prince who is known at every court in Europe to the proud proprietor of the hairdressing saloon in the borough. It would seem impossible that any maid or swain should remain unmarried with so many eager clients of both sexes on the brokers' books. But somehow their names do remain on the books—indermably.

The only objection to be found to the clients of the matrimonial agent is their curious faculty of vanishing into space at the critical moment

when the introduction is to be effected, and that this faculty may prove very distressing to the agent at times may be gathered from the following incident. An advertisement which had appeared in one of the weekly papers excited the interest of a gentleman who may be designated as Mr. A. It was as follows:

"SPINSTER, 26, possessing independent income, desires matrimony with a gentleman of middle-class parentage—B, Box —, etc."

Mr. A. wrote to the "D." spinster, and in return he received a reply from a matrimonial agent to the following effect:

"Dear Sir,—After inserting her advertisement Miss D. decided to place her affairs in my hands to shield herself from entering into correspondence with a gentleman whose object was merely amusement.

"Miss D. informs me that your letter has met with her approval, she considers that you are quite suitable to her and would like me to arrange an introduction between you, but in doing so I am to take the full responsibility of your intentions being honorable.

"I am prepared to arrange an introduction between you and Miss D. providing you enrol as a member. My charge is £5 5s., and to ascertain enrolling bona fide members only, I request payment of £1 5s. in advance, the remaining £4 being payable on marriage.

"Should this meet your favor, upon receiving the above sum I will at once arrange the introduction, sending you Miss D.'s address, that all communications may take place direct.

"As each member is entitled to as many introductions as may prove necessary to effect a marriage, should this introduction not end successfully

I will introduce you to other lady members. Trusting to be favored with your patronage, I remain, etc."

Mr. A., having suspicions as to Miss D.'s existence, did not forward the £1 5s., but instead after waiting a few days inserted the following advertisement in the same paper in which Miss D.'s had already appeared:

"Will the gentleman who wrote Spunster D. last week and received agent's letter write again?—M. D., Box —."

This advertisement brought replies from no fewer than twenty-three suitors, each of whom had received exactly the same letter from the agent as that quoted above. The applicants were of the most diverse appearances, occupations and tastes, and Mr. A.'s curiosity to see a lady of such catholic taste in husbands led him to pay a visit to the agent who acted on her behalf. He sought out the agent and found him in one of a diminutive row of new cottages in the salubrious if not exactly fashionable neighborhood of East Ham. But the "D" spinster was not there. nor

had her agent the slightest idea as to where she might be found. The agent was as much in the dark as to her identity as his interrogator. All he knew concerning her was that, as expected and unannounced, she had called upon him, bringing with her letters she had received in answer to her advertisement; that she had instructed him to negotiate a marriage for her with one or other of the writers; that she had paid him £2 10s. cash for his services; that, after bringing him some more letters, she had written to him dispensing with his services, and that he had never seen or heard from her since. And it was this Vanishing Lady whom the unfortunate agent had offered to introduce to twenty-four ardent lovers at twenty-five shillings a head! Truly, the lot of the matrimonial agent is made exceedingly difficult by such aberrations on the part of his clients, for owing to them he may find himself before a magistrate at the police court or even in the dock at the Old Bailey with small prospect of continuing his benevolent career for a term of months.

No greater mistake can be made than that of thinking that splendid works are wrought easily. Nothing is ever given out that has not first been faithfully acquired. The study, the effort, the practice, may have been yesterday or twenty years ago, but it has been. No great character has ever been formed, no great work ever wrought, except by the patient, unwearied use of each day's opportunities. There has been no truly great man who has not labored greatly.

The Romance of the Telephone

BY H. C. NICHOLAS IN MOODY'S MAGAZINE.

Some of the wonderful developments in telephone communication during recent years are recorded in the following article. Not only is the increase in the number of instruments remarkable, but also the rates to which they are being put. We have to-day all sorts of arrangements for expediting business by means of the telephone.

AMONG the curiosities exhibited at the Philadelphia Exposition, which was held in the centennial year of 1876, was the first telephone invented by Professor Bell. With its huge leather transmitter and the pointed receiver, this instrument was viewed as a wonderful but useless invention. The first rudimentary telephone exchange was established in Boston in the following year. It was, therefore, only thirty years ago that the telephone was invented, and less than that since the first commercial exchange was established. And yet, to-day, the telephone is in almost universal use throughout the world, and at a rough estimate there are probably ten billion messages transmitted in the chief countries in a single year. In the United States alone there were over six billion telephone messages last year. The story of the development of the telephone during the last three generations reads like a fairy tale.

Certainly no other industry in the history of the world has had such a remarkable development in such a brief period. In 1880 the population of the United States was, in round numbers, 50,100,000, and the number of telephones of all kinds reported in the census for the year was 54,319. As late as the close of 1894 there were less than 300,000 telephones in the country. In 1902 the number of telephones reported by the census for that year was 2,315,000. In other words, while the population increased 56 per cent. from 1880 to 1902,

the increase in the number of telephones was more than 4,300 per cent. In 1880 there was one telephone for every 923 persons, while in 1902 there was one telephone for every thirty-four persons.

Astonishing as this growth appears it has been far surpassed by the record of the last three years. Since 1902 the number of telephones has actually more than doubled. At the close of 1905 the Bell companies had outstanding 2,849,000 telephones. There were at least 2,000,000 telephones owned by independent companies, making a total of over 4,800,000 telephones in the country at the opening of the year. Moreover, far from having reached anything like the limit of its development, the number of telephones is growing at a faster rate than ever before. Subscribers are actually increasing faster than the instruments can be manufactured and installed. The manufacturers of telephones are working their plants night and day, and are yet unable to supply the demand. The Bell companies are increasing the number of their telephones at the rate of about 1,500,000 a year, independent companies are showing an equally amazing growth, while new companies are springing up all over the country from Maine to California. Mr. F. P. Fish, head of the Bell companies, a few months ago made the prediction that the next three years will see the number of telephones in the country more than doubled. The present really amazing progress amply justifies this

prediction, and by 1910 it is believed by telephone authorities there will be approximately 15,000,000 telephones in the United States. Before this maximum has been reached the indications are that the telephone will exceed the mail in the number of messages per day. The average rate for every class of telephone message is now about 1.7 cents, or less than the average rate for first-class mail.

The immense growth of the telephone system, during the last few years, is largely accounted for by the expiration of several fundamental patents, formerly controlled by the Bell companies, and which constituted the basis of their monopoly. The Bell companies were nearly twenty years in creating a demand for 500,000 telephones, whereas during the last five years, largely as a result of the independent telephone movement, there has been installed nearly 5,000,000 telephones. At least 2,600,000 more will be added this year. To maintain their position the Bell companies have been forced to expand at an unheard of rate, and although they had a start of nearly twenty years they have already been outstripped in many sections of the country by the independent companies. There is to-day an independent telephone system in every state and territory in the country with the single exception of Utah. In some sections the independent companies have four and five times as many subscribers as the Bell companies, and they are rapidly building up a long distance telephone system which rivals that of their older competitor.

The growth of the telephone lines during the last few years has been the result of the purpose to extend the telephone to every town, no matter how small, throughout the United States; and in all of the cities

and towns to place a telephone within easy and immediate reach of every person whose income is sufficient to permit him to ride on street cars. The extent to which this policy has been put into actual construction is indicated by the fact that, while the last census gave a record of 10,662 incorporated cities, towns, villages and boroughs, there is to-day telephone communication to 26,000 different settlements, and the extension of lines into new territory is going on as fast as the wires can be strung.

There is at the present time about one telephone for every twelve persons, man, woman and child, in the United States. Telephone authorities are looking forward to a maximum of one telephone for every five persons, and a system of long distance wires so complete and perfect as to place every subscriber in communication with every other subscriber throughout the land. Already there are approximately 300,000 miles of long distance telephone wires, representing an investment of about \$26,000,000. These lines, if straightened out, would reach from here to the moon, with enough wire left over to encircle the earth three times. These long distance wires can be attached to lines about 4,000,000 miles in length in the different cities and towns, reaching out to about 1,000,000 subscribers. The banker in his office in New York or Boston without leaving his chair can call up and within less than five minutes be talking with the business man in Minneapolis, Omaha, Kansas City or Indian Territory. In the near future the long distance wires will be completed through to the Pacific Coast, and the subscriber in Maine will then be able to converse with the subscriber in California.

The small amount of electric energy required to carry on such a conversation seems almost incredible. The energy required for a single incandescent burner is 5,000,000 times as great as that required to send a telephone message from Boston to Chicago, while the energy required to lift a weight of thirteen ounces is sufficient to operate a telephone 240,000 years. The amount of capital invested in this country in the telephone industry to-day is over \$750,000,000.

In the larger cities like New York, Chicago and Philadelphia, the telephone has become indispensable in the transaction of business. A temporary suspension of the telephone service would completely paralyze the business of Wall Street, and cause an almost entire cessation of business on the Stock Exchange. The general use of the telephone has enormously increased the capacity of the business mechanism. It is a far greater time saver than the telegraph or the railroad. During the last few years there has been a new phase of telephone growth. The larger business, law and banking houses have been installing telephones in large numbers. The idea is to get a telephone on practically every counter or desk. Communication within the store or bank is free, an employee without leaving his desk being able to talk with any one in the store. The actual saving in time in this way is worth hundreds of dollars to a large business establishment in the course of a year. A single department store in New York has 1,500 telephones, another 800 and a number from 200 to 500. Scores of banking houses in Wall Street have from twenty to fifty telephones apiece. The telephone has not affected the transaction of busi-

ness alone. In the larger cities almost every apartment house and private residence has a telephone. The ordinary social telegram is practically a thing of the past for short distances, having been supplanted by the telephone, and an increasingly large amount of the daily shopping is done every year in the same manner. Indeed, so widespread has become the use of the telephone in the larger cities that the telephone book has become a comprehensive business directory, besides containing the residence address of thousands of persons who keep telephones in their houses as well as their offices. Publishers admit that the greater convenience of the telephone book has seriously affected the sales of city directories during the last few years.

One of the interesting outgrowths of the telephone is the theatre-phone, which is an arrangement whereby a person can hear all that goes on in a theatre or opera house by sitting in his home with the specially arranged double receivers at his ears. Experts have been experimenting with the theatre-phone for several years, and have so perfected the system that it is possible to hear distinctly the lowest stage whisper or the softest note of an opera. The question has been seriously considered by one hospital in New York of installing theatre-phones in every room. During the week the patients can hear the various operas and concerts, and on Sunday connection can be made with a church of any denomination and the patient can hear the sermon. It is thought that this would greatly aid the recovery of patients, besides softening the loneliness of incurable invalids. The practicability of the theatre-phone has been thoroughly demonstrated,

the only objection from the standpoint of the telephone companies being that if in general use it would tie up so many trunk lines as to seriously interfere with the regular service.

A company has been organized in New York to furnish electric music to be transmitted through the telephone to the homes of the subscribers. Strings, reeds, and other devices with which we have been accustomed to sound our notes are dispensed with. There are a battery of alternators, which will transmit musical electric waves, and these are adjusted to as many different vibrations as are the strings of a piano. To play the instrument a piano keyboard is used. The pressing of a key operates a switch which closes the circuit leading to the alternators adjusted to produce just the note that the piano would produce. The wood-wind, brass and string tones of an orchestra are easily produced. Musicians who have heard the quality of the notes say that the delicacy of expression is remarkable. By the touch of the hand the performer controls the attack and sostenuto and varies the note at every instant. The imitation of the violin and cello is so perfect that the auditor can hardly believe that he is not listening to the howling over the strings. The notes are not sounded in the ear of the performer operating the battery, the vibrations instead being communicated to the telephone wires which transmit them to the

telephone receiver. These notes are sounded. The receiving telephones are fitted with a megaphone-like device which carries the notes through a room as well as an organ could. One of the receiving telephones is connected with the operator, and he can thus hear how his playing sounds. In case of a large hall several instruments could be used, the fact that the notes having the same origin they would blend perfectly. The promoters of this company believe that eventually hotels generally, because of the very much lower cost, will install these telephones and use them instead of orchestras. It is also expected that they will be installed in private residences, when the subscriber can any evening call up central and order music for dinner or a dance or a concert for his guests.

Recently the telephone has been installed in restaurants so that it can be used by the patrons at any table. It is on the bill of fare and is ordered with other items. The Pullman coaches of long distance trains are also being provided with telephones which are connected by a jack and plug arrangement to the exchange system of the Bell Company whenever the train stops for a few minutes in a city, thus giving the passenger an opportunity to telephone. Thus it is possible for a business man, whether traveling or dining, to keep in close touch with his office and his family.

The Career of a Young Canadian Actress

BY MATTHEW WHITE IN MUNSIE'S MAGAZINE.

Miss Margaret Anglin, the subject of this short sketch, is a Canadian by birth, who has won much distinction on the New York stage, being now a star. The story of how she first started acting and of how she has gradually risen to her present stellar position, is full of interesting incidents.

MISS ANGLIN, one of several children, was born in Ottawa, the Canadian capital, and had no leanings towards the stage by inheritance. Indeed, even when she discovered, in her convent school-days, that she possessed a gift for declamation, her ambition soared no higher than to dream of one day becoming a professional reader — the technical term for those entertainers who recite in drawing-rooms, for good pay, if they are lucky enough to become the fad with the smart set. Fay Davis, for instance, was such an entertainer in London when George Alexander discovered her at a friend's house.

But in order to prepare herself for such a career, Margaret Anglin felt that she needed the stamp of New York training. By tremendous effort and much persuasive power brought to bear on her family, she arranged to spend a Winter at the school of acting connected with the Empire Theatre. But her stay there was brief. At the very first public performance of the pupils she caught the attention of Charles Frohman, who offered to transfer her at once to the part of Mildred West in a road company presenting "Shenandoah." Scarcely seventeen at the time, she was naturally dazzled by the opportunity. To the winds went her aspirations for drawing-room distinction, with such a chance to follow in the footsteps of Charlotte Cushman and Sarah Siddons!

After a season in "Shenandoah,"

Miss Anglin passed into the company of James O'Neill. Here her talents had a little wider scope, and later they gained a still more extended experience, though not a particularly brilliant one, in a Summer stock organization. Next came her engagement by E. H. Sothern for his road revival of "Lord Chumley," to do the part of the smutty-faced slavey, created by Eliza Hawkins. The story of her career from this point down to the severance of her connection with the Mansfield troupe is best related in Miss Anglin's own words, in response to the writer's request for information.

"I suppose I should have been delighted to be in such a first-class organization as Mr. Sothern's, and of course I appreciated my luck in that respect, but I did not want to be promoted along the line of sous-brettes. And this was not the worst of my worries. A good part of the time I was not playing at all, for the role in 'Chumley' was all that was given to me. I was not even an understudy. We were playing in Philadelphia, and one afternoon while I was walking along Broad street it began to rain. I stepped under the shelter of the portico of the Hotel Walton, which I happened to be passing, and here I met the late A. M. Palmer, who was such a good angel to me! He was then manager for Mr. Mansfield. He had a friend with him, and as the rain came on heavier he persuaded me to remain to dinner. Naturally I told of my dis-

satisfaction at appearing so seldom, whereupon Mr. Mansfield suggested that I see Mr. Mansfield, then at the Broad street.

"I will make an appointment for you," he suggested, and I went home on the wings of hope. I kept the appointment in due course, but Mr. Mansfield could not see me after all. Another was made, and the same thing happened. When I went to the theatre for a third time, I found that Mr. Mansfield had just been bailed out of the police station, to which he had been haled by his valet for throwing a pair of boots, or something of the sort, at the man's head. As an outlet to his feelings, the famous actor had been telling the Philadelphians what he thought of them in a certain speech, and Mr. Palmer decided that it was not the most propitious moment for my interview. Our company left town then and I had to hold my aspirations carefully up in a nook, as it were, and lay them aside for a time.

"Meanwhile, Mr. Sothern had brought out 'The Adventure of Lady Ursula,' in which I had no part, but I was retained with the company in case they decided to give 'Lord Chumley,' for Mrs. Sothern, the Lady Ursula, was not in the best of health. And yet they would not make me an understudy. I tell you those were dark days for me, traveling about from place to place with the company, and yet never having a chance to appear. On one occasion, while we were in Chicago, I got a telegram at three o'clock in the morning, ordering me to come to the theatre at once. I reported immediately after breakfast, and not only was I reproved for not responding to the message more promptly, but a new regulation was established, requiring every member of the company, who-

ther playing or not, to report at the theatre every night. And then I found that the message had not been sent out until midnight, although written at seven. Of course the others blamed me for the new rule, which put us all to no small inconvenience.

"Well, the crux of the matter was that Mrs. Sothern was feeling worse and that they had decided to have me get ready to appear in her place if necessary. I remember I studied the part all that day, and that evening I played it. Mr. Mansfield saw some of my notices, and sent for me to talk about an engagement for the following season, when his wife, Beatrice Cameron, was to retire from the stage.

"Then began the oddest experience I had yet gone through. I left Mr. Sothern because his wife could not be expected to continue ill forever, and my opportunity with Mr. Mansfield seemed more promising, although no word had been said of making me his leading woman. They were, in fact, looking for somebody else to be the Roxane in 'Cyrano,' the play billed for their next production. I heard afterward that they tried to get either Leticia Fairfax or Ida Conquest for the part. Meanwhile the piece went into rehearsal, and until they could decide about the heroine I was asked to read the lines with Mr. Mansfield. My salary was fixed at sixty dollars a week, and I needed every cent of it. I had signed no contract. How could I, when my status in the cast had not been fixed?

"The first performance arrived, still no one else had been engaged, so I went on as Roxane. Then, as I was really leading woman, and was in sore need of money, I asked for a contract with a salary that would

justify me in turning aside the offers that now began to come from other managers. I even suggested that I should sign for two years, taking less the second year, for the sake of getting in money to pay some pressing drains on the family purse. They acceded to this, but the weeks went by and the wage in my envelope was always the same—sixty dollars. And meantime I had plenty of opportunities to earn more in other directions.

"At last I grew desperate. One manager had arranged to come to my hotel at four o'clock on a certain afternoon, to receive my final answer. The evening before, I despatched my ultimatum to Mr. Mansfield, telling him that unless he sent the contract for me to sign before that hour I must, in justice to myself, close with another offer. Well, I waited at the Park Avenue all the afternoon. No word came from Mr. Mansfield; at four o'clock the other manager arrived and I signed with him for Constance in 'The Masked Ball.' That night, when I reached the theatre, one of the company handed me a note from the management accepting my terms. I found out afterwards that the messenger had received it in plenty of time to deliver it to me before four o'clock, but it was a matinee day at Weber & Fields', and he had an engagement to attend with an actress friend of his, so he decided that it would do just as well to give me the message in the evening. Sometimes I feel like rising up and calling down blessings on that careless person's head, although I was angry enough at the time."

Constance was a small role in a big play, but the salary was more than Miss Anglin had been receiving for doing the leading lady in 'Cyrano.' Moreover, her new engagement brought her again to the at-

tention of Charles Frohman, who secured her for Miami with Henry Miller in 'The Only Way', and thus, in turn, led to her appearance as Baineson Roydon, the heroine in 'Brother Officers,' in January, 1900. Of her work in the last-named part, the late Clement Scott, the English critic, who was then on a visit to America, wrote:

"Before last night I had never heard the name of Margaret Anglin. It had not traveled to England. But what grace she has, what a sweet, pathetic voice, what ease of movement, what an absence of affectation, what genuine feeling, what moments of inspiration! Why, I could write a column about that love scene in the last act—womanly, tender and touching to the core."

It was on the last night of the old century, however, that Margaret Anglin won her most decisive victory, with the same part in Henry Arthur Jones' striking drama, 'Mrs. Dane's Defense.' By an odd coincidence, Ada Rehan appeared on the same night at the Knickerbocker in Paul Kestel's 'Sweet Nell of Old Drury,' which had been such a success in England, with Julia Neilson, that Miss Anglin had been seriously thinking of securing the American rights. She must have congratulated herself that she had not closed the deal, as the play fell flat here, and in taking it she would have missed the chance at Mrs. Dane.

The next Winter she won more praise for her work with the Empire players, first in 'The Wilderness,' as the daughter of a scheming mama, again in the dual title role of 'The Twin Sister,' and finally as the quaintly humorous Gwendolin of Oscar Wilde's deliciously clever 'The Importance of Being Earnest.'

The season before last Miss Anglin

began her career as a star. Her first vehicle, "The Eternal Feminine," proved too weak a reed on which to lean for a metropolitan engagement, and she did not come to New York until September, 1905, when she swept the people fairly off their seats with her rendering of a new Miley Merrick from Wilkie Collins' novel, "The New Magdalen," rechristened "Zira" for stage use. She continued in this all winter, at the formerly luckless Princess Theatre, and ex-

pects to return there again in the coming Autumn, still under Henry Miller's artistic management. She is to present a series of plays, leading off with a comedy and possibly including "The Sabine Woman," an oddly virile drama by a new writer, which she tried in Chicago last Spring. Miss Anglin takes a peculiar interest in this play, partly because it comes close to giving her a role of the difficult sort that best represents her professional ambitions.

A Talk About the Dread Disease, Cancer

BY EENE EICH IN PEARSON'S MAGAZINE.

That the cancer-statistics are on the increase is fully proved by statistics. Comparing 1890 and 1900, deaths from this cause in America increased proportionately from 48 to 62 in 100,000 inhabitants. Some facts about the disease are given in the following extract.

IF you ask a physician what a cancer is, he will tell you that it is a kind of tumor, or swelling, of which the special structural peculiarity is in the character and arrangement of the cells composing it. The matter is made more clear, however, when it is explained that a tumor is simply a growth of tissue in the wrong place, and that in a cancer, which is a malignant tumor, the cells, as seen under the microscope, have irregular shapes. In one kind of cancer the cells are arranged in nests, in another they are in pockets. There is in any case of the disease an abnormal modification of structure, the essential feature of which is an unlimited multiplication of cells, commonly resulting in the formation of a surface outgrowth, while columns of the parasitic cells literally burrow into flesh, and even bone, disintegrating and destroying whatever they encounter.

One of the most common forms of

cancer is "epithelioma"—a malignant wart, which not only grows outward, but burrows deeply. Sooner or later ulceration follows, which may penetrate the blood vessels and cause the patient to bleed to death. This is the simplest and mildest form of the dreaded malady. Yet, when, as often happens, it attacks the tongue, it advances so rapidly and becomes fatal so quickly that, in this phase, it must be classed as one of the most malignant of cancers. It begins as a little lump beneath the skin, or else as a small, hard ulcer. If promptly removed by the surgeon's knife, no further danger need be apprehended; otherwise it will literally eat up the victim, and eventually will surely kill him.

Another kind of cancer, known as "rodent ulcers," usually attacks old people, especially in the upper part of the face. It starts as a hard pimple on the nose or cheek, taking the form of a flat-topped lump, which

sometimes has a ring of redness around it. Before long the lump "breaks down" into an ulcer, which spreads slowly over the surface, and later on begins to burrow, destroying everything it meets, including even bone, and producing most hideous deformity. The process may go on for many years, while the health of the person attacked remains in other respects excellent. But if resort is had to the surgeon's knife without much delay the cure will nearly always be complete.

Though formerly supposed to be due to an impurity of the blood, cancer is now known beyond the peradventure of a doubt to be merely a local disease at the start. Nearly always it makes its first appearance in some non-vital part of the body, and if promptly removed there are four chances out of five that it will never return. There is never more than one point of original attack; so that—barring "secondary" symptoms, for the prevention of which operative treatment is undertaken mainly—the sufferer has no occasion to dread recurrence of the trouble. On the other hand, if the first tumor is not cut out, the mischief is certain to assail a vital organ later on, and then death cannot be long deferred.

Those investigators who still hold to the theory that a microbe is accountable for the malady—a germ communicable to human beings, and perhaps transmissible from animal to man, or from one person to another, by some means of infection as yet unknown—find evidence on their side of the question in the fact that in certain so-called "cancer houses," many of which have been studied in different places, one set of inmates after another has been attacked by the disease. Furthermore, there are

recognized "cancer districts," in which undeniably the death rate from the complaint has remained extraordinarily high through a long series of years. Such a district has been under watch in the village of Coemmelles, in Normandy, where it was found that in one street of fifty-four houses there were seventeen dwellings which within a short time had furnished twenty-one cases of cancer.

There are cancer districts in every country. One of them is the Township of Brookfield, close to the centre of New York State, in which, according to the returns of the State Board of Health, the mortality from the disease in 1902 ran up to 149 in each 100,000 living, whereas in other parts of the state it varied from fifty-nine to eighty-two. This township has an agricultural population, and a large part of its cabbage crop in some years is destroyed by the so-called "clubroot disease"—a trouble bearing in its character a suggestive likeness to cancer, and known to be caused by a certain microbe already identified. The slender possibility that this microbe might have something to do with the exceptional prevalence of cancer in the Brookfield neighborhood was sufficient to induce experts to investigate the question, but no positive results have been obtained.

The Town of Luckau, in Germany, has 3,000 inhabitants, with two suburbs containing an additional 1,000 each. In twenty-three years, from 1875 to 1898, seventy-three deaths from cancer occurred in the east suburb out of a total of 663 deaths from all causes. During the same period in the west suburb there was not a single case of the malady. The seventy-three deaths in the cancer suburb occurred within an area

covered by three city blocks. Of the 127 dwellings in this area fifty-six were cancer houses, ten of them furnishing two cases, two of them three cases, and one of them four cases. Apparently the plague followed the course of a ditch filled with foul and stagnant water. The gardens of the cancer houses were watered from this ditch, and the people were in the habit of washing their vegetables in the impure fluid. Were the vegetables thus infected with cancer germs? And, some of them being eaten raw, did they in turn infect the people with cancer? Nobody can say; it is a mystery.

If it were practicable to make a series of experiments on human beings by dosing them with that ditch water, valuable knowledge might be gained. To do so, however, is out of the question, and lower animals, though all of them are subject to cancer, do not afford very satisfactory "subjects." It has been found extremely difficult to transmit the disease from man to the brute by inoculation, though Dr. Park claims at last to have accomplished it. On the other hand, it has been proved that a portion of the malignant growth, when transplanted to a distant part of the body of a saffron, will grow and form a tumor similar to the first one. But this achievement does not seem to throw much light upon the question of the transmissibility of the malady from one person to another.

Meanwhile, for purposes of study, cancer tumors of all kinds are being collected by the laboratory in Buffalo, in London under the auspices of the Cancer Fund, and at other centres of research. This remark applies not only to tumors of human origin, but also to those of animals, both domesticated and wild. Cancer seems to be decidedly common in

dogs, cats, and horses; it is frequently found in cattle inspected at the abattoirs; it often occurs in mice and recently it has been discovered in fishes. In every case it produces the same symptoms as in man, and the tumors have a like appearance under the microscope. Even the vegetable kingdom is not exempt, and a species of cancer destroys such a vast number of trees as to make it well worth while, merely for economic reasons, that the Government Forest Bureau should investigate the subject.

Too much emphasis cannot be laid upon the fact that cancer of any kind is simply a local disease, usually curable with prompt treatment, but absolutely incurable later on. In most cases it is practicable to remove the cause of mischief completely and with no more danger or pain than are involved in the extraction of a decayed tooth. The reason so many people die of the dread malady is chiefly that they do not seek advice and help from a competent surgeon quickly enough. To begin with, the character of the ailment is not recognized; and when at length it has been identified as cancer, the patient is apt to defer the cure until too late, through sheer fear of the knife.

Nothing but the knife will serve. Drugs and mineral spring waters are absolutely useless. The X-ray is of unproven value; radium is but a possibility, and as for the galvanic current, though it benefits some cases temporarily, it is probably only palliative at best. Attempts to burn out the tumor by the use of plasters of chloride of zinc, arsenic, or other destructive chemicals, are nothing better than crude experiments. They create frightful sores, cause the most terrible pain, and are dangerous besides, the poisonous substance em-

ployed in the form of a paste being likely to be absorbed into the system of the patient.

To see a person suffering literally the tortures of the damned for weeks and even months at a stretch, in a futile attempt to eat away a cancer by chemical means, when it could be removed in twenty minutes under

chloroform with safety and without a twinge of pain, is certainly an extraordinary, as well as distressing, spectacle. And yet there are plenty of people who will subject themselves to such misery, incidentally sacrificing their chance of recovery, simply because of an unconquerable dread of the knife.

Some Aspects of Recent Earthquakes

BY E. D. O. IN GEOGRAPHICAL JOURNAL

A great many articles have been written about the earthquake of April 18 at San Francisco, all more or less inaccurate. The following extract, taken from a noted scientific magazine, discusses the catastrophe in a calm and uncoloured manner. It shows that in reality there was nothing very unusual about the shock at San Francisco.

WE may anticipate, with confidence, that the earthquake of April 18 will take a place in the annals of seismology only second to the Lisbon earthquake of 1755, or, if not in seismology, at any rate in popular histories of earthquakes, and for the same reason. Both were earthquakes of the first order of magnitude; the Lisbon earthquake was probably the second greatest of which we have any historic record, and that of San Francisco, though excelled by several, is still a very great earthquake, yet both would have passed with little notice but for the destruction to which they gave rise, and in both cases this destruction of life and property was only to a slight degree the direct result of the earthquake proper. In Lisbon the death roll was due to the great sea wave, and in San Francisco to fire. The special correspondent of the Times has estimated that only 3 per cent. of the damage in San Francisco was directly due to the earthquake, the remaining 97 per cent. being due to fire, and in Lisbon

the proportion was probably much the same, so great is the power of the familiar elements of fire and water as compared with that of earthquakes, greatly as the latter impress the popular imagination. Like artillery in warfare, their mortal effect is out of all proportion to the amount of material damage they cause.

Apart from the magnitude of the disaster, popular interest and popular alarm were excited by the short interval which separated it from the great eruption of Vesuvius. People began to wonder whether there was any connection between the two, and whether the world we live in was getting unsafe; this wonder found its reflection in numerous articles in the daily press, and in interviews with a number of persons whose opinions for and against the existence of a direct connection between the two catastrophes have been reported. As we have, in almost every case, only the interviewer's version of these opinions, it would not be fair to quote them, but the matter is

one of considerable interest, and it may be well to point out what can and cannot be known regarding it.

Volcanic eruptions and great earthquakes differ radically in their immediate cause. Small earthquakes may be due to any cause which can start an elastic wave-motion in the earth, but the really great earthquakes, so far as is known, are always started by the sudden fracture of the solid crust of the earth. In some way not fully known, though probably it is more or less directly connected with the gradual cooling of the earth, the earth's crust is thrown into a state of strain which ultimately grows too great to be borne, and fracture takes place. Where the power of resistance is small, the accumulated strain is also small, and so, too, the resulting disturbance; but where the power of resistance is great, the strain also becomes great before yielding at last takes place, and then disturbance, often accompanied by permanent displacements of the ground, carries destruction in its wake. The occurrence of a really great earthquake means, not only a greatness of force, but also of resistance: it is due to the disruption of solid rock.

In a volcanic eruption the conditions are radically different. Here, too, much is still unknown, but it is certain that an active volcano means the existence of a large body of molten rock, either actually in a fluid condition, or at such a temperature that only a relief of pressure is necessary to make it pass from the solid to the fluid state. It must not be supposed that this fluidity is due to heat alone, the magma is permeated with water, and the condition of the lava in the volcano's neck is a sort of compromise between fusion pure and simple and aqueous

solution; but however its state may be defined, the important point is that the rock immediately concerned with the cause of the eruption is virtually in a liquid state, while that which is directly concerned with the production of great earthquakes is virtually solid.

In view of this radical difference in cause and in effect, it seems at first sight as if there could be no connection between the two; seismologists have, in fact, recognized that the neighborhood of active volcanoes is not specially liable to earthquakes, though the disturbances which accompany or precede a volcanic eruption may start tremors of that nature, and the districts where earthquakes are most frequent and most violent are always removed, and often far removed, from active volcanoes. The absence of direct connection of the nature of cause and effect between these two classes of phenomena does not, however, preclude the possibility of both being consequences of a common cause, which has been described as the reaction of the interior on the exterior of the earth, a phrase which will be found in many text-books of geology, and of which we may say that it represents a reality whose precise nature and limitation we are unable to define.

Whatever the character of this reaction, its manifestation is certainly liable to periodic variation, the last twelvemonths has been one of more than average frequency of great earthquakes, and has witnessed more than an average, though not an exceptional, development of seismic and volcanic activity. The Kagra earthquake of April 4, 1906, the two Central Asian earthquakes of July 9 and 23, the Colombian earthquake of January 31 last, and the San Fran-

cisco earthquake of April 18, were all disturbances of the greatest magnitude, but the total amount of seismic activity was probably no greater than in 1897-98, and there is no indication of any spreading out of great earthquake centres from the regions whence they commonly originate. The distribution of earthquake centres is curiously localized, and those of the greatest earth-

quakes are limited, so far as experience goes, to certain areas which do not cover more than, at most, 5 per cent. of the earth's surface. Great Britain lies well outside any of these regions, and, so far as our country is concerned, there is no reason to anticipate the slightest probability of an earthquake such as led to the destruction of San Francisco.

The Worker That Counts.

I saw upon the face of a watch three workers. There was a very thin one, so thin that I could hardly see it, and it seemed to be moving in a little circle of its own, and to have nothing to do with the other workers. One of the other workers was long and genteel and graceful. The third worker was short and slow. I looked at them for a while, and I said, "There can be no doubt in the mind of any one who looks at this watch who the worker is: the worker is evidently that little one that moves in a circle of its own. I can see it move, it moves lightly, blithely, trippingly; I can see it. The long one I can hardly see move at all until I have been watching it for a considerable time; and as for the short one, I think I may safely declare that it does not move at all."

See how a stranger to the mechanism of a watch can talk; how ignorant he is of what the workers are doing! You may take off the little thin worker and do very little damage, you may even take off the long and graceful worker, and though you will suffer a considerable injury, yet you can do without its service at all. But if you take off that little, short, slow worker, you could never tell the time of day.—The late Dr. Parker.

Other Contents of Current Magazines.



In this department we draw attention to a few of the more important topics treated in the current magazines and list the leading contents. Readers of *The Busy Man's Magazine* can secure from their newsdealers the magazines in which they appear. :: :: :: ::

AMERICAN.

Short stories in the *American Magazine* can always be relied upon to be good and in the July number we have an excellent collection of them. The other contents are up to the usual high standard of this publication.

The Taming of Rogers. By Sherman Morse.

Reaping Where we Have Not Sown. By Julian Willard Helburn.

The Confessions of a Life Insurance Solicitor. By William McMahon.

The Single Woman's Problem.

The San Francisco that Survived. By Julian W. Helburn.

The Slave of Cotton. By H. H. Webster.

APPLETON'S.

With the July number the price of *Appleton's Magazine* has been reduced to 15 cents or \$1.50 per year, which should serve to place this high-grade publication within the reach of a greater number of people. The contents of the July number are

characterized by good sense and wide interest.

Mural Decorations by C. Y. Turner. By Grace Whitworth.

The Supreme Court and Coming Events. By Frederick T. Hill.

Speaker Cannon. By Richard Weightman.

The Commercial Side of the Monroe Doctrine. By Harold Bolce.

The Portraits of St. Menin. By Charles Kasson Wead.

Liberia: An Example of Negro Self-Government. By Agnes P. Mahony.

Collecting: The Familiar Study of Works of Fine Art. I. By Russell Sturgis.

ATLANTIC MONTHLY.

An important contribution to the columns of the *Atlantic Monthly* is "The Autobiography of a Southerner Since the Civil War," which begins in the July number. "An American View of British Railways" and "Napoleon as a Booklover" are interesting features of the number.

Some Aspects of Journalism. By Hollo Ogden.

Isben. By Edmund Gosse.

The Ignominy of Being Grown-up. By S. C. Crothers.

An American View of British Railways. By Ray Morris.

Henry Sidgwick. By Wm. Everett.

The Grading of Sinners. By Edward A. Ross.

Napoleon as a Booklover. By J. W. Thompson.

Our Unelastic Currency. By George von L. Meyer.

BADMINGTON.

All lovers of out-door sport will find in the July number a supply of appropriate literature on motoring,

yachting, fishing and hunting.

Sportsmen of Mark. By Alfred E. T. Watson.

Royal Homes of Sport. By Sir Henry Seton Karr, C.M.G.

Some Motor Gossip. By Major C. G. Matson.

The Education of a Polo Pony. By Lillian E. Brand.

Twelve Months of Women's Golf. By Mrs. R. Boys.

Strange Stories of Sport. By Dan-iele B. Vane.

Fishing in a Himalayan River. By Major-General Creagh, C.B.

Photography Above the Snow Line. By Mrs. Aubrey Le Snow.

Week-end Yachting. By Francis B. Cook.

BROADWAY.

Lovers of art will appreciate the July number. Several articles deal with the different phases of New York life.

The Future Beauty of New York. By Remsen Crawford.

From the Slums to Culture's Height. By James L. Ford.

The Month in New York. By Geo. C. Jenks.

The Abandon of Coney Island. By Stewart Gould.

The Stage and its People. By Lillian Bell.

Current Opinion in New York.

CANADIAN.

A clever poem celebrating the winning of the Marathon Race is a readable feature of the July issue of the *Canadian Magazine*. The number also contains three articles on out-door life, which, with their many illustrations, are very timely.

Climbing the Chamoux Aiguilles. By George D. Abraham.

Canadian Celebrities. 70. Professor Wrong. By Stuart Calais.

Fascination of the Utmost South. By C. R. Ford.

A Fisherwoman in the Rockies. By Julia W. Henshaw.

In the Geyser Land. By Beatrice Grimshaw.

When the Dominion was Young. III. By J. E. B. McCready.

Governor Lawrence and the Acadicians. By Jessie A. W. Savary.

CASSELL'S.

Some fine illustrations grace the pages of the July number of *Cassell's*. Attention is directed to the American ambassador, Whitelaw Reid, and portraits of his family and himself are published.

Marvels in Make-up. By Joseph F. Heighon.

The Navy's Picture Gallery. By Adrian Margaux.

The American Ambassador at Dorchester House.

Princess and Governor. H. R. H. Princess Henry of Battenburg. By James F. Fasham.

Untrodden Irish Paths. By Shan F. Bullock.
Wireless Telegraphy. By Richard Kerr.
The Ills of a Seditious Life. By J. Dalbag.

CASSIER'S.

The July number continues the attack on the metric system by setting forth the views of some of the leading manufacturers and engineers of Great Britain. An article entitled "The Latest Ore-hauling Machinery on the Great American Lakes" is ably illustrated, and should be of exceptional interest to the engineering world.

The Commercial Motor-Vehicle in Great Britain. By Ernest F. Mills.

Some Engineering Paradoxes. By A. H. Gibson, B.Sc.

American Naval Organization and the Personnel Law of 1899. By Rear-Admiral George W. Melville, U. S. N.

Electricity in Elevator Service. By S. Morgan Bushnell.

New Business for Electric Central Stations. By Jno. Craig Hammond.

Modern Grinding. By Joseph Horner.

CENTURY.

The July issue of the Century is devoted almost entirely to fiction and seldom is it the good fortune of magazine readers to come across such a good collection of stories. Among story writers represented are Alice Hegan Rice, Anthony Hope, W. Alther Hickman and Lawrence Mott.

The Strange Case of R. L. Stevenson and Jules Simon. By Julia Scott Freeman.

Senator Hoar. By Canon Rawnsley.
China Awakened. By Joseph Franklin Griggs.

Why do the Boys Leave the Farm? By L. H. Bailey.

Dry Farming—the Hope of the West. By John L. Cowan.

COLLIER'S WEEKLY.

June 16. "Birth of a Parliament," by Kellogg Durland; "The First Night," by George Ade; a full-page picture in color by Frederic Remington of the discoverer, "Zebulon Pike."

June 23. "Mr. Dooley on the Food we Eat," by F. P. Dunne; "Anarchists in America," by Broughton Brandenburgh; "Where Roamed the Yukima," by R. L. Jones; "The Power Wagon," by Jas. E. Homans.

June 30. "The New San Francisco," by Samuel E. Moffett; "One Kind Word for John D.," by Frederick Palmer; "Real Soldiers of Fortune," by Richard Harding Davis; "The Arbitration Courts of Australia," by Florence Finch.

July 7. "What the World is Doing," by Samuel E. Moffett; "Lawless France," by Ray Stannard Baker; "The Second Generation," by Chas. Belmont Davis; "Bohemia of the Netherworld," by Owen Kildare; "The Wild Land Craze," by Reht. G. Mackay.

CONTEMPORARY REVIEW.

A military article dealing with the service of auxiliary forces in the event of war is the leading contribution to the June number of the Contemporary. Dr. Dillon's comments on foreign affairs are readable.

Our Auxiliary Forces. By Lt.-Col. Absager Pollock.

Herbert Spencer and the Master Key. By John Butler Burke.

Schoolmasters and Their Masters. By Lt.-Col. Peader.

The Imperial Control of Native Races. By H. W. V. Temperley.

Christmas, Easter and Whitsunside. By Alfred E. Garvie, D.D.

The Truth About the Monasteries. A Reply. By Robert Hugh Benson.

Mankind in the Making. By Mary Higgs.

The Decadence of Tragedy. By Edith S. Grossmann.

The Clergy and the Church. By E. Vine Hall.

The Extravagance of the Poor Law. By Edward R. Pease.

The Success of the Government. By H. W. Massingham.

CORNHILL.

A serial, "On Windy Hill," commences with July issue of Cornhill. An interesting article, "Twenty Years in London," by a French resident, contrasts the life of to-day with that a score of years ago.

A Script of the Stone Age. By H. C. Bailey.

The Mind of a Dog. By Professor S. Alexander.

The Passing of Euclid. By Chas. Godfrey.

The Winds of the Ocean. By Frank T. Bullen.

General Marbot and His Memoirs. By J. Holland Rose, Litt.D.

Alcohol and Tobacco. By R. Brandell Carter, F.R.C.S.

COSMOPOLITAN.

The personal narrative of General Funston's experiences in San Francisco is the chief feature of the July

issue of the Cosmopolitan. This is accompanied by a great many illustrations, including two panoramas of the city.

How the Army Worked to Save San Francisco. By Frederick Funston.

Poor Girls Who Marry Millions. By Lida Rose McCabe.

The Treason of the Senate. By D. G. Phillips.

What Life Means to Me. By Julia Ward Howe.

Story of Andrew Jackson. By Alfred Henry Lewis.

The Social Unrest. By M. Hillquit, A. Beece and R. Hunter.

Social Side of the Circus. By Karl Edwin Hartman.

Seeing the Real New York. By James L. Ford.

CRAFTSMAN.

"Building a New City" occupies the premier position in the July number and gives a forecast of the new San Francisco. An article entitled "Russia," pictures that race in a different light than we usually see it.

Charles Haug—a Sculptor of Toil. By Job Spargo.

Boat Life in Japan. By Marguerite Glover.

The Riddle of the Tall Building. By H. A. Caporn.

The Social Secretary. By Mary Rankin Cranston.

A Co-operative Village for Working People. By Mabel Tuke Priestman.

What is Architecture. By Louis H. Sullivan.

CRITIC.

The July Critic is an Ibsen number and is found to contain several

articles about the famous author, as well as numerous photographs of him. The issue is as usual of great literary interest.

Voltaire and His Brother.

"Nero" as a Poem. By Arthur Waugh.

Should George Eliot Have Married Herbert Spencer?

What the Negro Reads. By George B. Uley.

Henrik Ibsen: An Appreciation. By William Archer.

Ibsen's Early Youth. By C. L. Doe.

Henrik Ibsen and the Stage System.

EMPIRE REVIEW.

The contents of the July number is confined to topics concerning the Empire. Many important subjects are very fully discussed.

Richard John Seddon. By Constance A. Bernicini.

An Anglo-Russian Agreement. By Edward Dicey, C.B.

The Colonial Office and the Crown Colonies. By Sir Augustus Hemming, G.C.M.G.

The German Navy. By J. L. Bashford.

The Marconi System and the Berlin Conference. By H. Cuthbert Hall.

Life in Rhodesia. By Gertrude Paine.

Indian and Colonial Investments.

ENGLISH ILLUSTRATED.

The leading article, "Darimont's," is accompanied by some magnificent illustrations. The frontispiece, "Return of the Privateers," is very attractive.

The London Stage. By Oscar Parkes.

Stories of H. M. The King. VII.

"The Thunderstorm." By Walter Nathan.

The Prince of Evil. By George Dennison.

The Bending of the Stream. By T. M. Kennedy.

A Letter of Introduction. By Katharine Silvester.

The Peculiarities of Famous French Authors. By R. Weston.

EVERYBODY'S.

Everybody's is still carrying on its campaign against corruption in finance and in support of movements for reform. Its special writers contribute to the July number several articles of this kind.

Soldiers of the Common Good. By Charles Edward Russell.

The Dawn of Russian Liberty. By Vance Thompson.

Bucket-Shop Sharks. II. By Merrill A. Tague.

Sophie Wright: The Best Citizen of New Orleans. By John L. Matthews.

A Prediction Roll-Call. By Thomas W. Lawson.

GARDEN MAGAZINE.

As the Summer advances, the contents of the Garden Magazine increase in interest and value. The illustrations are always scanned with pleasure. In the July number we are treated to the following:

Quality Lettices for the Home Garden. By L. and E. M. Barron.

The Day-Blooming Water-Lilies. By H. S. Conard.

A Round-up of the Garden Peppers. By E. D. Darlington.

Raspberries, Blackberries and Dewberries. By S. W. Fletcher.

A Garden Planted After July Fourth. By I. M. Angelo.

Important Vegetables for July Planting. By J. T. Scott.

The Best Hardy Plants of the Heath Family. By John Dnohar.

GEOGRAPHICAL JOURNAL.

The June issue completes another volume and a very extensive index of the contents of the last six numbers is appended. A notable feature of the June number is a paper by Reginald A. Daly, of Ottawa, on "The Nomenclature of the North American cordillera Between the 47th and 53rd Parallels of Latitude." Exploration in the Abai Basin, Abyssinia. By H. W. Blundell.

Suggestions for an Inquiry into the Resources of the Empire. By Prof. G. F. Scott Elliot.

Bathymetrical Survey of the Fresh-water Lochs of Scotland.

Dr. Sven Hedin's Journey in Central Asia: Scientific Results. By Major W. Broadfoot.

Recent Earthquakes. By R. D. O.

GOOD HOUSEKEEPING.

A symposium, consisting of seven contributions on the subject, "The Hardest Day's Work I Ever Did," by a number of eminent people is the best thing in the July number of Good Housekeeping. There are a number of other first-class features as will be seen from the following list:

Sacred Sevens. By Edmond Russell.

The Hardest Day's Work I Ever Did. A symposium.

The Psychology of Happy Marriage. By John D. Quackenbush.

The Seven Ages of the Home-Maker. VI. By Clara E. Laughlin.

Shaker Industries. By Sister Maria.

Holland, the Land of Thrift. By Victor.

Certified Milk and Other Forms. By Joseph H. Adams.

HARPER'S.

Some very charming illustrations in color accompanying an article in the July Harper's on "The Habits of the Sea." The number contains stories by Newman Duncan, Alice Brown, Justus Miles Forman and others, with a good list of specials.

An English Country Town and Country House. By W. D. Howells.

Days and Nights with a Caravan. By Charles W. Furlong.

The Habits of the Sea. By Edward S. Martin.

William Dean Howells. By Mark Twain.

Radium and Life. By C. W. Saleeby.

Decisive Battles of the Law. By Frederick T. Hill.

My People of the Plains. By Rev. E. Tabet.

A Guild of Carpenter Ants. By H. C. McCook.

HOUSE AND GARDEN.

The many choice illustrations in House and Garden make it a delight to the eye. These embrace rural scenes, old mansions, gardens and other out-door subjects. The text is in keeping with the illustrations.

Franklin Law Olmsted and His Work. IV. By John Nolen.

Toledo. By John Molitor.

Portraits of American Trees, Native and Naturalized.

How to Choose the Style of a House.

Beverly Hall, a Bachelor's Old Colonial Home. By Richard Dillard.

Sharsted Court, Kent. By Amelia S. West.
 Intensive Farming in California.
 Garden Portraits. By Margaret Greenleaf.
 The Moderate-Cost House in Philadelphia.
 The True California Garden. By Charles M. Robinson.
 The First County Park System in America. II.
 Garden Work in July. By Ernest Hemming.

IDLER.

The Idler contains articles which will interest every class of readers. An illustrated article, "Fully Insured," outlines the trials of the ocean voyage.

The Corniche D'Or of the Esteret. By Francis Miltout.
 La Belle Charnleigh's Pearl.
 A Leader of Men. By M. Lucke Challis.
 A Sealed Book. By Barbara Cheyne.
 Fishing Inns. By Robert Barr.

INTERNATIONAL STUDIO.

A second notice of the Royal Academy Exhibition with a large number of reproductions of paintings exhibited there is a feature of the July number of the International Studio. There are also several handsome colored inserts that delight the eye of the art lover.

The Royal Academy Exhibition.
 The Exhibition at the New Gallery.
 An Italian Sculptor.—Rembrandt Bugatti.
 The Portrait Work of Joaquin Sorolla.
 Maxfield Parrish's Book Illustrations.

Recent Designs in Domestic architecture.
 The Mezzotint and Etched Work of Frank Short.

IRISH MONTHLY.

The interesting aerial story "Dunmara" concludes with the July number.

The Hearing of Music. By N. Twisslow.
 Dr. Johnson's Catholic Tendencies. By Chas. T. Waters.
 In a Magdalen Asylum. By N. Tyman.
 A Saint and His Mother. By M. A. Curtis.

LIPPINCOTT'S.

The novelette in the July number of Lippincott's is "The Heart of Paprika," by Jane Belfield. As usual there are a number of other first-class short stories, as well as the ever-readable department of "Walnuts and Wine."

Words, Words, Words. By John Foster Kirk.
 What is a Lady? By Minna Thomas Antrien

McCLURE'S.

Rudyard Kipling's curious story, "Robin Goodfellow—His Friends," reaches its third installment in the July number of McClure's. The same number contains a character sketch of John R. Hyde, who founded the Equitable Life Insurance Company and throws an interesting light on the early days of insurance.
 The Story of Life Insurance. III. By Burton J. Hendrick.
 The Morals of Mammon. By John McAuley Palmer.
 My Sixty Sleepless Hours. The Story

of the San Francisco Earthquake. By H. A. Lafer.
 New Music for an Old World. By Ray Stannard Baker.
 Reminiscences of a Long Life. IX. By Carl Schurz.
 The Career of Carl Schurz.

METROPOLITAN.

Three color plates in the July Metropolitan add considerably to the artistic beauty of the number. The issue is rich in short stories, many of which are of a high order of merit.
 The Land of the Buffalo and the Lion. By Stanley P. Hyatt.
 The Waifs of a Great City. By Lachlan Teters.
 A Cruise in Southern Seas. By Captain J. C. Semmers.
 The Drama of the Month. By James Huneker.

MOODY'S.

To the man, who wishes to keep posted on finance in general, Moody's Magazine can be recommended. Take for instance the June number and study the following contents. They will be found to cover a wide range of financial and kindred subjects.

The Romance of the Telephone. By H. C. Nicholas.
 World-Wide Decline in Bonds. By Charles F. Spence.
 The Land Question in Russia. By W. E. Walling.
 Low and High Months. By B. C. Keeler.
 A Conservative Trust Policy. By H. T. Newcomb.
 The Dollar Above the Man. By Paul Leake.
 The Outcry Against Watered Stock. By F. B. Thurber.

Monetary Panics—Causes and Remedies. By Hermann Holk.
 Standard and Uniform Reports. By Harvey S. Chase.
 Life Insurance as an Investment. By A. Penitent Agent.
 Cycles of Cotton Speculation. By Thomas Gibson.

MUNSEY'S.

An article in the July Munsey on "The Canadians in the United States," illustrated with a large collection of photographs, will find interested readers in this country. "There is also a paper on "Margaret Anglin" in the number, accompanied by a handsome portrait of the distinguished Canadian actress.
 The Tercentenary of Rembrandt. By Royal Cortissoz.
 Speaker Cannon. By Allen D. Albert.
 Musicians and Their Earnings. By W. J. Henderson.
 The Romance of Steel and Iron in America. IV. By Herbert N. Casson.
 The Canadians in the United States. By Herbert N. Casson.
 Margaret Anglin. By Matthew White.

NATIONAL.

"Affairs at Washington," by Joe Mitchell Chapple, becomes more interesting with each issue. The portraits contained in the July number add greatly to the magazine.
 Uncle Sam's Tax-Payers. By David A. Gates.
 Open Air Photography. By Olive Shippen Berry.
 Whitman and Trabel. By Frank Fulman.

NEW ENGLAND.

"Summer Life of the Diplomats,"

accompanied by portraits of United States' official guests, describes the Summer life of these representatives at the capitol. Many articles treat on affairs in the New England States, The Massachusetts Bench and Bar. By Stephen O. Sherman and Weston F. Hutchins.

Despotism of Combined Millions. By Jno. W. Ryckman.

Modern Problems of Immigration. By Winfield S. Aleotti.

An American Barhizon. By Grace L. Schoen.

New England Energy Abroad. By Mary Stoyell Stimpson.

Boston and the Women's Club. By Inez J. Gardner.

A Chronicle of Boston Clubs. By Julia Ward Howe.

The Ideal of New England. By Kate Upton Clark.

Three Famous New England Colleges. By Alice Stevens, Alice S. Jenkins and Mary Phillips Mallory.

PALL MALL.

An extraordinary story by no less a person than William Waldorf Astor, "The Last of the Tenth Legion," opens the July number of Pall Mall. It is followed by a number of articles and stories that together make up a good all around number.

The Highest Climbs in the World. Can Mount Everest be Conquered?

By George D. Abraham.

Pictures on Palettes. By Frederic Lees.

The Making of the First English Parliament. By William Hyde.

Mr. and Mrs. Asquith at Home. By Emmie Avery Keddell.

The Feeling of Plants. By S. Leonard Bastin.

The "Passing" of the Circus. By Olive Holland.

Paris After Dark. By M. de Nevers.

A Garden Without Flowers. By Carine Cadby.

PEARSON'S (AMERICAN).

A character sketch of "Uncle Jo," speaker of the United States Congress, by James Creelman, is the opening article of the July number. The issue contains a goodly number of short stories and an installment of Eleanor Gates' serial, "The Plow Woman."

America at Flood Tide. By James Creelman.

The Romance of Aaron Burr. By Alfred Henry Lewis.

The Ravages of Cancer. By Rene Bach.

A Sailor of Fortune. By Albert Bagelow Prine.

Canadians in the United States. By S. Morley Wickett.

Party Conditions in England. By Edward Porritt.

Ocean Freight Rates. By J. Russell Smith.

The Legal Position of German Workmen. By W. H. Dawson.

The Philippines and the Filipinos. By James A. Le Roy.

Record of Political Events. By Paul L. Haworth.

PEARSON'S (ENGLISH).

Few magazines are on a par with the July number of Pearson's. A department worthy of special attention is that headed "The Pressing Problems of To-Day."

Antocrats Who Act. By F. A. Middleton.

The Escape Agents. By Coteliffe Hyne.

Why Rifles are Deserted. By Harry Irving Greene.

Disillusion. By Rosalie Neish.

The Repentance of Luce. By C. M. Delandres.

The Curse of the Cigarette.

POLITICAL SCIENCE QUARTERLY.

A valuable contribution to the June number of the Political Science Quarterly is a paper by Prof. S. Morley Wickett, of Toronto, on "Canadians in the United States." The article is enriched by a number of valuable statistical tables and shows the result of much study and research.

Snuffbox Limitations in Louisiana. By J. L. W. Woodville.

READER.

The Reader is a semi-literary publication with enough stories and general articles to make it conform to the requirements of a popular monthly. It is admirably printed and illustrated and contains many features of interest.

The Country God Made. By Arthur Colton.

Americans and British. By Brander Matthews.

The Old Familiar Faces. Drawings from Dickens. By Reginald Birch.

Forestry. By Thomas H. Shippey.

Isaac as I Knew Him. By William Archer.

RECREATION.

The articles of the July number show the appropriateness of the title of the magazine. The contents includes articles on every Summer pastime.

One of the Crowd. By Roseoe Brumhaugh.

Camping in the High Sierra. By Madeline Z. Doty.

Yachting in the Northwest. By F. M. Kelly.

An Outing in Arcadia. By Allen J. Henry.

Bar-Fishing in Wisconsin. By Doc Cameron.

An American Sport for Americans. By G. M. Richards.

The Art of Camping. By Charles A. Bramble.

The Athen's World's Athletic Meet. By Milton E. Tourne.

The Camping Lunch. By W. R. Bradshaw.

REVIEW OF REVIEWS.

In "The Progress of the World" the July number of Review of Reviews gives a brief and concise history of the events of the past month. "The Rate Bill: What it is and What it Will Do," enumerates the existing evils in transportation and suggests remedies for them. **Isaac's Work and Influence.** By Seldon L. Whitcomb.

American Athletes in Ancient Athens. By James E. Sullivan.

The Awakening of Nevada. By Clarence H. Matson.

Tunneling the Seine at Paris. By E. C. Morel.

The Decrease in Rural Population. By William S. Roaster.

Michael Davitt, the Irish Patriot.

The Growth of Political Socialism. By W. D. P. Bliss.

ROYAL.

Light, clever and varied are the contents of the July number of the Royal. As usual, fiction predominates and the short story with the love interest leads. The illustrations throughout are particularly good.

A Prison Governor's Day. By "O.H. M.S."

Popular Picture Post Cards. By Lewis Perry.

Ripe Strawberries. By H. J. Holmes.

Pair Ladies and Fine Feathers. By F. E. Baily.

SATURDAY REVIEW.

June 9. "The Anarchist Beast," "China for the Chinese," "German Problems," "Naval Manoeuvres 1906," "Reichsmann," by Max Beerholm; "Micha Elman's Genius," by Harold E. Gersh; "A Heretic on Games," by Cecil S. Kent; "The Testimony of Our Earthworks," "The Evolution of Bridge."

June 16. "Hospitals and Charity," "Mr. Seddon—Imperial Socialist," "National Service," "The National Gallery Appointments," "Church and Bible in the Schools," "The Reform of the New York Life," "Figure-heads for Motors," "Dornoch and Broca."

June 23. "Mr. Birrell's Embarrassments," "Europe and the Congo," "The President and the Packers," "Election Petitions," "Railways and Parliament," "Fire Insurance Risks," "Yvette Guilbert and Albert Chevalier," "Nature and the Moslem," "The Mean of the Mower."

June 30. "The Cobdenite Appeal to Australia," "Unmasking the Education Bill," "Law and Native Races," "A Thinking Organization," "Insurance, Estimates and Results," "In the Footsteps of John Bay," "The Attack on the Church," "The Prime Minister and Secular Education."

SORIENEE'S.

Of considerable interest to Canadians are the two articles on Can-

ada's new transcontinental railway in the series of "The Railways of the Future" in the July Scribner's. The Government section is described by Hugh D. Lumsden, the chief engineer, and the Grand Trunk Pacific by Cy Warman, the well-known writer on railroads.

Impressions of Dalmatia. By Ernest C. Peixotto.

The Magenta Village. By Edward Penfield.

The Prong-Horned Antelope. By Ernest Thompson Seton.

Canada's New Transcontinental Railway. By Hugh D. Lumsden.

The Grand Trunk Pacific. By Cy Warman.

Glasgow. By Frederick C. Howe.

SPECTATOR.

June 9. "Signs of Compromise," "Anarchists," "The American Meat Scandals," "The Spectator Experimental Company at Windsor," "The Manufacture of Pan-pans," "Courage and Creed," "The Sweated Industries Exhibition," "Goblin Combe."

June 16. "The Position of the House of Lords," "Mr. Roosevelt and the Trusts," "The Latest Incident in Vienna," "The Pan-peroration of Poplar," "Mr. Seddon," "The Manufacture of Pan-pans," "The Dread of Boredom," "Spring in the Alps," "Grouse and Red Deer."

June 23. "The Situation in Russia," "White Labor for the South African Mines," "M. Clemenceau and M. Jaures," "Judges and Election Petitions," "The Attitude of Young Englishmen Toward Military Service," "The Manufacture of Pan-pans," "A Religion of Nature," "A Mirror for Journalists," "Sleep."

June 30. "Germany, Britain and

France," "The Education Bill," "Hopes and Fears in Russia," "The Chamberlain Plan of Campaign," "The Vatheau and the Separation Law," "The Manufacture of Pan-pans," "The Art of Disappearance," "The Season of the Dry Fly."

SUBURBAN LIFE.

Lightness and timeliness characterize the contents of the July issue of *Suburban Life*. The illustrations are as usual numerous and excellently reproduced.

Houses Built of Solid Stone. By Walter Mueller.

A New West Built of Concrete. By O. E. Sewewich.

The Camera in Summer. By J. Horace McFarland.

The Collie—a Dog With a Mission. By Harry W. Lacy.

A Wedding Trip in a Canoe. By Flora K. Edmond.

Making the Garden Homelike. By George Gibbs, Jr.

Playtime Days in the Suburbs. By Alice W. Wright.

A Real Old-Fashioned Clambake. By Andrew Rollins.

The Farmer versus the Crow. By Edward H. Forbush.

Out-of-Door Living Rooms. By Grace R. Faxon.

Apples to Grow in the Home Orchard. By E. P. Powell.

SUCCESS MAGAZINE.

Fiction occupies a rather more conspicuous position than usual in the July number of the *Success Magazine*. A good newspaper story by F. Hopkinson Smith opens the number and there are several other stories, mainly of a light and amusing character.

Thompson and His Hippodrome. By Samuel Merwin.

The Dummy Director. By David Ferguson.

The Real Debauchers of the Nation. By Eugene V. Debs.

Remarkable Facts About the San Francisco Earthquake. By How-er Whitfield.

We Must Know What We are Eating. Recreation and Sports. By Harry Palmer.

A Vacation in a Teepee. By W. A. Keyes.

ST. NICHOLAS.

The July number celebrates the Fourth of July and is very gay in its colored cover. The contents are largely concerned with the holiday. Honors to the Flag. By Captain Harold Hammond.

The Great Seal of the U. S. By Thomas W. Lloyd.

The Signers and Their Autographs. By Mary C. Crawford.

A Hundred-Year-Old Church. By J. L. Harboun.

The Boys' Life of Abraham Lincoln.

TECHNICAL WORLD.

From the Canadian standpoint the best article in the July number of the *Technical World* is the one dealing with the construction of the Grand Trunk Pacific and entitled "On the World's Last Frontier." This has been profusely illustrated.

Are There Men on Mars? By Prof. W. H. Pickering.

On the World's Last Frontier. By Richard A. Harte.

Canning California Breezes. By Wil-helm Bassett.

The Gold Seekers. By D. A. Willey.

Electricity as Housemaid. By Sidney James.

Street Railways Which Repair Themselves. By Henry Hale.
 Uncle Sam's Oversight. By Elliott Flower.
 Passing the Fire Test. By Hollis W. Field.
 Motor-Trucks Driving Out Draught Horses. By D. Beecroft.
 Making Silk out of Gun-Cotton. By Clarence Hutton.

THE BUSINESS MAN'S MAGAZINE.

The value of the Business Man's Magazine to the commercial world cannot be over-estimated. The leading article in July number, "Employment Co-operation in the Management of the Business," is worthy of close attention.

The Royal Game. By Albert E. Photo.
 The Municipal Sinking Fund. By M. P. McKenna.
 Modern Methods in Office and Warehouse. By J. H. Ransden.
 How to Secure a Clerical Position. By H. J. Hapgood.
 Perpetual Inventories. By J. R. Griffith.
 The Business Man and the Garden City. By Ewart G. Culpin.

THE FORUM.

The articles of the July number are of great importance. Attention is directed to "Foreign Affairs" which outlines the problems confronting the different governments to-day.
 American Politics. By Henry Littlefield West.
 Foreign Affairs. By A. Maurice Low.
 Finance. By Alexander D. Noyes.
 Applied Science. By Henry Tyrrell.

Thomas Hardy's Dynasts. By Prof. W. P. Trent.
 Educational Outlook. By Ossian H. Lang.
 Christian IX of Denmark. By Julius Moritzen.
 Economics and Politics of the Reclamation. By F. W. Blackmar.
 The Women of Japan. By Adachi Kimosuke.

WINDSOR.

A noticeable feature of the July number is very effective illustrations which accompany each article. "The Art of Frederick Walker" occupies the place of honor.
 The Caprice of Beatrix. By Francis Rivers.
 Chronicles in Cartoon. By Fletcher Robinson.
 The Doubting of the Doctor. By Henry C. Rowland.
 An Unknown Quantity. By E. E. Kellett.
 Versus Yesterday and To-Day. By G. R. Levermer.
 The Charlatan. By F. M. White.
 Wild Animals and Their Portraits. By C. L. B. Peeck.

WOMAN'S HOME COMPANION.

The July number contains a sheaf of short stories that will give pleasure and amusement during the warm days of Summer. There are also holiday suggestions in the number which will be found of value.
 Child Slaves of the Slums. By John Sparzo.
 Shall We Reform Our Spelling? By Mary B. Hartt.
 Don't Blame the Dogs. By W. G. Fitz-Gerald.
 Has the Club-Woman Supplanted the Church-Woman? By Charlotte P. Gilman.

For the Girl Who Earns Her Own Living. By Anna S. Richardson.

WORLD TO-DAY.

Two classes of men in the public eye are taken up in the July issue of the World To-Day—the mayor of the people and the university professor. A number of full-page portraits of celebrities in both classes accompanies the articles.
 The Russian Dogma.
 The Cradle of the Republic. By Plummer F. Jones.
 Henry M. Beardsley. A Sketch. By Hugh O'Neill.
 Tom L. Johnson. A Sketch. By George C. Sikes.
 Brand Whitestock. A Sketch. By William Hard.
 James Noble Adam. A Sketch. By Thomas P. Hamilton.
 The New Detroit. By Hugo Erichsen.
 The University Professor. By Shailer Mathews.
 The Panama Railroad. By Linden Bates.
 Summer Outing Camps. By Annie E. S. Beard.
 In Search of a New Arctic Continent. By C. R. Patterson.
 Americans of the Future. By Daniel T. Pierce.
 The State Dispensary of South Carolina. By Freeman Tilden.
 The First Modern Comedy. By H. C. Chatfield-Taylor.

WORLD'S WORK (AMERICAN).

The July number of the World's Work has been designated a "Up-lift Number" and its purpose is to view the world's work from an optimistic and hopeful standpoint. It contains a number of encouraging contributions.

A Wonderful Business Year.
 Notable Recent Painting and Sculpture. By Florence N. Levy.
 Two Leaders in Educational Statesmanship.
 The New Hope of Farmers. By David Fairchild.
 The Agricultural Revolution. By Dr. Seaman A. Knapp.
 The Man of Perfect Health. By Luther H. Gulick.
 Is Our Cotton Monopoly Secure? By Clarence H. Poe and Charles W. Barrett.
 The Picturesque Jamestown Fair. By Charles Russell Keiley.
 A Great American Cathedral. By Robert Ellis Jones.
 What Kind of Boston is Chicago? By James W. Linn.
 What Makes Socialism?
 Our First Experiment in Socialism. By F. T. Gates.
 Prosperity and Business Morals.
 The Rebound of San Francisco. By French Strother.
 A Comprehensive view of Colleges. By Walter H. Page.
 WORLD'S WORK (ENGLISH).
 Electricity and electrical machines are given very great prominence in the July number of the World's Work. Several articles deal with these themes. Each issue of the magazine contains an article on some Canadian topic. The July number contains an illustrated article on "Canadian Cruise Cruising."
 Who Shall Electrify London. By T. McKinnon Wood, L.C.C.
 Music by Electricity. By Marion Melius.
 The Future of Manchuria. By Ernest Brindle.
 The Bagdad Railway. By W. M. Ramsay, D.C.L., Litt.D.

The Socialist Party in United States.
By Upton Sinclair.

The Women's Movement in France.
By Charles Dawkins.

British Progress in Colliery Science.
By A. S. E. Ackermann, B.Sc.

Some Commercial Aspects of Simpson Tunnel. By Vernon Sommerfeld.

The New Teaching About Lightning Conductors.

Teaching the Blind to Use Tools. By Robert Toms, A., M.I., M.E.

A Unique Industrial Association. By C. Armitage-Smith, M.A.

YOUNG MAN.

No publication contains more inspiring articles for young men than this magazine. With a list of strong articles as the July number contains

it cannot fail in aiding its readers to achieve success.

Dr. MacNamara. By Arthur Page Gimbh.

A Young Man's Point of View. By J. Spink Wilson.

A Minstrel for a Mind Diseased. By Rev. Thomas Bates.

Henry Ibsen, Profit and Idol-Breaker.

A Noted Blind Preacher: Geo. Matheson, D.D., LL.D. By Alex. R. McFarlane.

God's Englishmen. By W. Scott-King.

The Germs of a Physician. By Geo. H. R. Dehls.

The Pretty Ways of Providence. By Rev. Mark Guy Pearse.

Crystal Effects of Tobacco. By Jas. Scott.

Self-Mastery.

In some way or other we must all meet disappointments and experience defeats now and then. Life is full of contests in which many contend but only one wins the prize. Both in the case of the winner and of the loser there is a fine opportunity for noble behavior. Sometimes the victor beats himself in such a way as to tarnish or sadly blot the honor he has won. Thus those who have been successful may suffer a far worse defeat in themselves, falling in manliness and in true nobility of spirit. There is a Bible word which tells us that he who rules has own spirit is greater than he that taketh a city. Self-mastery is the finest heroism and the finest achievement in life. The winner in the race adds yet more honor to his successes when he bears himself worthily, and the loser robs his defeat of all humiliation when he meets it in a manly and generous way. A generous man rejoices in another's honor.

The Busy Man's Book Shelf

Some Interesting
Books of the
Month Reviewed



A Great Physician's Words of Counsel.

DR. WILLIAM OSLER, of Oxford University, formerly of Johns Hopkins University, needs no introduction to his fellow-countrymen in Canada. A native of the Devonshire, he has shed a lustre on the Canadian name, which years will not tarnish. Not alone has he won distinction as a great practitioner, but in the realm of letters he occupies a foremost position. The publication of his book on "Science and Immortality," so fine in its thought, so exquisite in its workmanship, at once placed him in the ranks of the best of contemporary essayists, and now the collection of extracts from his lectures and addresses, made by Mr. Canace and published under the title of "Counsels and Ideals," (Boston: Houghton, Mifflin & Co. \$1.25 net) gives the world still more of his vigorous and scholarly writing.

The extracts have been carefully compiled by the editor and their subdivision under twenty general head-

ings tends to give a system to the book, too often lacking in works of this kind. Their brevity makes a reference to them at all times and seasons a pleasure. The reader can pick up the book, open it at any page and immediately grasp the writer's thought without any reference to the earlier parts of the volume.

Dr. Osler's writing, while it attains a high literary standard, is yet eminently practical. In this book there is indeed counsel of a splendid kind, while the writer points out ideals, which it would do all young men good to place before them. Naturally much of the book is concerned with the study and practice of medicine, for the reason that the lectures were delivered to medical students and the addresses before medical bodies. But none the less there is a universality about his writing which commends it to people in all walks of life.

One of the most pleasing features in the book to the scholar is the large number of biblical and literary allu-

lusions. Dr. Osler's mind seems to be steeped in the lore of the ancient and classical writers, and with the true artist's skill he is able to blend the thoughts and ideas of the past into his own writings. To dip into this book is to meet one of the finest minds and most sympathetic natures of to-day.

The Secret of Heroism

No greater service could be rendered the youth of Canada than that which the Deputy Minister of Labor has done in preparing a memoir of Henry Albert Harper. It will be remembered that Harper sacrificed his life in December, 1901, in a vain endeavor to save the life of Miss Bessie Blair, who with his escort had broken through the ice of the Ottawa River. The heroic but fruitless effort of the young man thrilled all Canada and in commemoration of it a monument was last year erected at Ottawa to his memory. At the same time his college friend and associate in the work of the Department of Labor, the Deputy Minister, prepared a small volume, making public some details which bore directly on the crowning glory of his life. This volume, called "The Secret of Heroism" (Fleming H. Revell Co.) tells the life story of a singularly fine and lovable character.

It would be impossible within the space available here, to enter into details of this life. Rather let the lesson which it teaches be impressed on the reader's mind—the lesson that heroism is not the gift of a moment but that it is the accumulation of years; that it is built up by a ceaseless care for the higher and better side of our lives. In the case of Harper, it is possible to trace this growth of character from the influences of home and of college, the

ideals that he pursued and the motives that guided him, so that when the supreme call came he was not found wanting.

It is well to enlorge heroism for itself; it is better to praise it on account of the character back of it. In laying bare the secret of Harper's heroism, the call goes forth for more earnestness and self-control in the lives of the youth of Canada.

Raising the Average

At the present time the number of books published aiming to inspire and guide young men and women to a more perfectly rounded life is noticeably large. This would seem to indicate that there is a growing class of people who feel called upon to do their share in uplifting the race. If only these books could be as widely heralded and commended as are many of the present-day novels, it would mean that they would fall into the hands of a larger circle of readers, to whom they would be a great source of profit.

In a small volume entitled "Raising the Average," (Fleming H. Revell Co.) which can be easily perused within the limits of an hour, Don O. Shelton gives some valuable advice to young people, as he endeavors briefly to answer what he considers a leading life-problem, "How can I bring all my moments up to the standard and achievement of my best moments?" A careful analysis shows him that the ideal Christian life is the only one that will enable a man to attain a high average of purity and strength.

He does not preach the goody-goody life that wraps itself in a mantle of saintliness and stands apart. Rather does he emphasize a manly and determined advance into the world, a struggle with its evils

and a resolve to conquer. In this way he makes his book a practical treatise that should appeal to every young man.

The book is divided into four chapters. In the first the author endeavors to show how, by controlling our thoughts, by economizing our time, by using life's fragments and doing the little things thoroughly, we will raise the average of our life. In the second he points out the need for progress if we are to make anything of our lives. In the third he emphasizes the need for a motive, finding the best and greatest motive of all in that which actuated the Saviour's life. In the last he urges us to hold fast to our purpose.

A Philosopher's Outlook on Life

In these days, a volume of essays on anything less practical than commercial success is a rarity, and when we come across a delicate and delightful series of talks on the finer and more worthy things of life, such as those contained in Arthur Christopher Benson's "From a College Window" (New York: G. P. Putnam's Sons, \$1.25 net), we feel that we have indeed discovered a treasure.

The writer looks out upon the world with calm eye from the peaceful seclusion of the University of Cambridge. His mind is untroubled by the turmoil of the world, his attention is not absorbed by the demands of time and sense. And yet on the other hand he does not eliminate these interests from his consideration of life. He recognizes their existence and because of his disinterested position he is able to give them their right place in the harmony of the whole.

The volume is a frank expression of the author's opinions on such subjects as beauty, art, religion, books,

conversation, education, ambition, and a dozen more subjects of a singular character. His personality — a singularly charming one — is impressed on every page and the reader is continually discovering new interpretations of life and its interests, that delight the fancy and inspire the mind.

It is unnecessary to enter into any minute examination of Benson's philosophy. There doubtless are portions of the book open to adverse criticism, but such can very readily be left to the consideration of the individual reader. Estimated as a whole, the essays are charming in spirit, instructive in essence and inspiring in tone.

A University Professor's Praise of Service

In an age of restless, ever-shifting progress, when material prosperity, world-wide commercial activity, and startling scientific discovery are absorbing men's minds almost to the exclusion of that vision of better and higher things without which a nation is doomed to perish, President Cole's little book, "The Life That Counts" (Thomas Y. Crowell & Co., New York, 75 cts.) comes as a timely aid to reflection, to resolution and to action.

The theme is service with the qualifications of life required for true service. It is treated in a series of addresses under titles derived from the imagery of the prophet Ezekiel. Life is a divine gift, complex in its attributes, its motives and its sphere of action. The only life worth living is a life of goodness. A man's life finds its fulfillment only in the performance of God's will and its highest expression is that enthusiasm of humanity of which the fitting symbols are burning lamps and coals of fire.

As the living creature in the prophet's vision had the face of a man, there is the expression of human kinship with the implied qualification of human sympathy, that fellow feeling which instinctively ranks every man as a brother to whom love and service are due according to the standard which Christ himself has set.

Another aspect of the living creature is the face of a lion. The meaning is apparent. No life is fully equipped for service without the quality of courage, that noble virtue which has its foundation in a right life, its impulse in a right will and its finality in faith in God.

As the face of an ox symbolizes patient plodding work, so the face of an eagle points to the hidden sources of inspiration from which the soul of man derives its refreshment and its strength.

The concluding chapter treats of disinterestedness. Not for hope of reward, not for greed of glory must any one embark upon the life of service. The reward of the good life is the good life itself and it asks no other glory save the glory of going on.

Any summary of this admirable little book conveys but a very inadequate conception of its literary merit or its moral force. To be appreciated it must be read, and being read it involves a new responsibility to right living.

A Study of Monetary Conditions.

In the average book on economics or sociology, the writer usually forgets that the majority of his readers are not on the same plane of know-

ledge as he is himself. He writes above their heads; his book is cast aside by the easily discouraged reader or is painfully perused by the more dogged seeker after knowledge.

Of a few books, it can be said that their writers have taken the proper attitude of mind towards their readers and have sought by a careful explanation of every detail and a simplification of language to make the task of reading their book not only easy but agreeable. This tribute of praise can be bestowed on a recent publication of Professor M. S. Wildman, "Money Inflation in the United States" (G. P. Putnam's Sons New York).

Professor Wildman at the outset disclaims all intention of making his book a treatise on money. His purpose is rather to show the influences in American history which have led to a demand on the part of the public for more money. To this end he divides his book into two parts, taking up first psychological influences and secondly economic influences. He starts with an elementary discussion on psychology and passes on to show the state of mind into which society is plunged at certain crises, with the resultant actions that arise therefrom.

Following this, by a careful reference to the history of the United States he explains how various economic conditions have interacted and co-operated with the mental conditions to produce the depression which underlies the recurring cry for more money. The book is not controversial

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Men's Attire

FROM JULY DRY GOODS REVIEW.

Some features of midsummer dress, with forecasts of styles that will prevail during Fall and Winter.

THE clothes of this Summer show another decided step in the direction of ease and informality. Softness and looseness are important characteristics, and these attributes extend even to the dress accessories—shirts, collars and cravats. Of course, smartness of appearance must be preserved, but all stiff, formal conceptions are eliminated as much as possible. To claim a popular position in midsummer haberdashery an article must have the virtue of being comfortable under scorching conditions, and look the part besides. Flannels, tweeds and homespuns are the suitings of genital wear.

The collar of the season is the fold, with the wide V-shaped opening. The indications are that its popularity is to have a strong degree of permanency. Dealers express the opinion that it has come to stay. The same style of collar, built up more, is expected to be in good demand this Fall, although it will not likely affect the wrags to any very marked extent.

For outing purposes a new collar was introduced this season. The material is flannel, and the front is fastened across with an ornamental safety pin. Confined to the uses for which it was designed, this innovation would have been extremely well favored. It is in excellent demand, but being used for street wear by the indiscriminating at the opening of the season, has detracted from its good form in the eyes of particular persons. Apart from this it is certainly a factor in the collar trade.

The newest thing in the Summer shirt is the negligee with turn-back cuffs, in a variety of hot weather colors. It embodies comfort and coolness both in fact and appearance. The coat shirt is gaining ground, and it seems reasonable that it should continue to do so until it has displaced the style that has so long been in vogue, except, perhaps, in the very cheap grades, where the slight extra cost would be a consideration.

This is a record season for wash ties. White with dots is a great favorite, certainly, but heliotrope, light blues and even pinks are selling well. The shapes, in four-in-hands, show a moderation of the most popular Spring shape, the long, round knot. The combination of a low neat collar and a light-colored loosely-knotted tie will go about as far toward making a man look cool as any article of attire. Even if worn with a dark suit it would have a very marked effect.

Fancy waistcoats are asserting themselves quite strongly to public favor, and are being widely received; in fact, so brisk is the call for them that some merchants have found their sales of belts very materially affected. For Summer wear wash materials are used principally. In accordance with the vogue, grey is the leading color, with white grounds following within range. Light tans are also in the running. A novelty in the braided vest. Where dark braid is used with the darker colors rather a heavy appearance, more suitable for Fall, is imparted. Some lighter com-



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binations are, however, quite seasonable.

An attractive idea is the wearing of fancy handkerchiefs in the outside breast pocket of the coat. The colorings most favored are delicate and refined.

A straw hat forms part of nearly every man's attire in the hot months. The sailor shape is predominating, although there is considerable sale of the soft type, with flexible brim, among the younger men. Panamas have not justified the prediction that they would be in general demand. One city dealer remarked that he had not sold as many of \$5 to \$10 this year as at \$15 to \$35 three years ago in the same time. The soft-brimmed hat will probably be strong in the popular trade next season. Bands are mostly in plain colors.

In socks, grey to match suitings of the same shade is in the greatest demand. There is also a good call for blues and tans.

The tan shoe is not so popular as last season, although it still holds quite a solid position.

* * *

Greys for Spring, lighter greys for Summer, and heavier greys for Fall and Winter! Truly, this is a grey year in men's suitings, but somehow prevalence of the color does not strike one as faddish, in the ordinary sense of the word. Grey wears well to the eye, and in fact is such a standard, especially for Spring and Summer, that there is no danger of its being slurred the same as brown after its phenomenal vogue. Brown is not so quiet, and because of its obtrusiveness it became monotonous, and was dropped rather hard. Incidentally, it might be said that there is quite a little being sold, and it will shortly attain its normal posi-

tion in the market, although some time must elapse before there will be another run on it. While grey will very probably be less worn next year it is not likely that it will fall far below the average that it has heretofore maintained.

The merchant tailor is now figuring on his stock of Fall and Winter goods and he apparently is not going to have much trouble in selection as regards the most suitable colors. He is buying greys of all the darker shades and mixtures, and has the best of assurance that the call on them will be large. Fancy Saxony suitings are moving out well, and browns are not neglected. Mixtures of grey and green are looked upon with favor.

Blacks must always be stocked. Their standing, backed by conventionality most inflexible, can never be disturbed, whatever the turn of popular fancy. Across the line an attempt has been made to substitute colors in evening dress. The fad has been taken up by some of the young men, but it will be short-lived, as it certainly should be.

Blues have a steady demand also, and while they may feel the effects of the grey season to some extent, they are sure to hold a great deal of favor.

* * *

The leading feature in men's suit styles this Spring was the long form-fitting sack coat, with pressed seams and centre vent. The innovation hardly has qualities to extend its impact longer than the Summer. There is too much of the fad about it. To make a legitimate claim to favor beyond one season, a style must be reasonable and show points to justify its existence. The only thing that could be dwelt on in defence of this one is the length of the coat, but that will not survive the season. Al-

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ready it has been decided that it shall be moderated for Fall and Winter. The pressed seams will be in vogue when the vent is obviated, and the vent where there are no pressed seams. The coats will be mainly single-breasted, although there is bound to be a good demand for the double-breasted garment as well. The lapels on the latter will have a tendency to be narrower than last year.

The loose trousers are still very much favored, and they will again be found in style for the coming season. The peg-tops may have looked decid-

edly faddish when they first appeared but they have enjoyed a vogue that is fully justified by their quality of comfort. From the present standpoint it would appear that the tighter trousers has not the slightest chance of forcing itself back.

The new overcoat is form-fitting, with a plain flare over the hips and single vent. Pleated seams may be used if desired, and they are shown in some attractive models. The plain back coat of moderate length will have its usual demand, which is considerable.

The Art of Thinking

TO think clearly is among the first requirements of all great men. This faculty, like all other faculties of the mind and body, must be improved. One of the best modes of improving in "the art of thinking" is to think over some subject before you read upon it, and then to observe after what manner it has occurred to the mind of some great master; you will then observe whether you have been too rash or too timid, in what you have exceeded, and by this process you will insensibly catch a great manner of viewing questions on all subjects within the range of human knowledge.

It is right to study, not only to think, but from time to time to review what has passed—to dwell upon it, and see what trains of thought voluntarily present themselves to your mind.

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